

2/02/05

**ENVIRONMENTAL ASSESSMENT FOR AN EMERGENCY RULE TO ESTABLISH A  
TRIP LIMIT FOR THE GULF OF MEXICO COMMERCIAL GROUPEL FISHERY**



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## **Abbreviations Used in This Document**

APA	Administrative Procedures Act
CEQ	Council on Environmental Quality
Council	Gulf of Mexico Fishery Management Council
CZMA	Coastal Zone Management Act
DWG	Deep-water Grouper
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EIS	Environmental Impact Statement
ER	Emergency Rule
ESA	Endangered Species Act
FMP	Fishery Management Plan
FONSI	Finding of No Significant Impacts
GMFMC	Gulf of Mexico Fishery Management Council
GOM	Gulf of Mexico
GW	Gutted Weight
MMPA	Marine Mammal Protection Act
MMS	Minerals Management Service
MOU	Memorandum of Understanding
mp	Million Pounds
MPA	Marine Protected Area
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
PRA	Paperwork Reduction Act
Secretary	Secretary of Commerce
SEFSC	Southeast Fisheries Science Center
SWG	Shallow-water Grouper
TAC	Total Allowable Catch

## Environmental Assessment (EA) Cover Sheet

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### Name of Action

Emergency Rule to Establish a Trip Limit for the Gulf of Mexico Commercial Grouper Fishery

### Type of Action

Administrative  
 Draft

Legislative  
 Final

### Summary

Secretarial Amendment 1 to the Reef Fish Fishery Management Plan of the Gulf of Mexico was implemented by NOAA Fisheries Service on July 15, 2004, and established a rebuilding plan and quota for red grouper, and reduced the quotas for deep-water and shallow-water groupers. The deep-water grouper and shallow-water grouper fisheries were closed on July 15, 2004, and November 15, 2004, respectively. The Gulf of Mexico Fisheries Management Council, at the request of industry, asked the National Marine Fisheries Service to develop an emergency rule establishing a trip limit for the commercial grouper fishery in 2005. These trip limits were proposed to prolong the shallow-water and deep-water grouper fishing seasons in 2005 and reduce the adverse effects associated with derby fishing. This environmental assessment considers establishing various trip limits for shallow- and deep-water groupers to moderate the rate of harvest of the available quotas and potentially extend the fishing season in 2005.

The proposed action would establish aggregate trip limits for shallow-water and deep-water groupers in the GOM commercial fishery. Alternative 1 maintains status quo regulations (i.e., no trip limits), and allows commercial fishermen to harvest an unlimited quantity of grouper per trip but promotes derby fishing and shortens the fishing season. Preferred Alternative 2 and Alternative 3 establish trip limits resulting in more fishing trips and longer seasons. Preferred Alternative 2 and Alternative 3 would mitigate the derby effect but impose some costs to the fishermen that are, however, outweighed by minimizing the impacts of derby fishing. Preferred Alternative 2 produces less net revenue losses than Alternative 3 while still achieving the goal of adequately prolonging the fishing season.

## **Fishery Impact Statement – Social Impact Analysis**

Regulations impose restrictions on fishery participants, which can result in adverse effects on fishermen and fishing communities. The proposed action would establish aggregate trip limits for shallow-water and deep-water groupers in the GOM commercial fishery. These trip limits are intended to prolong the fishing season in 2005 and mitigate the adverse socio-economic effects of a derby fishery.

Alternative 1 would maintain status quo regulations. The Gulf of Mexico Fishery Management Council (GMFMC) expects the rate of commercial grouper harvest to increase in 2005 due to quota closures in 2004 and improvements in the status of red grouper as a result of the rebuilding plan and recently implemented management measures. The derby fishery that is expected to develop could significantly shorten the fishing seasons for shallow-water and deep-water groupers and create market gluts, which would depress market prices. This would be expected to increase the potential of lost markets for commercial harvests and reduce revenues.

Preferred Alternative 2 and Alternative 3 would each establish trip limits. The trip limits proposed for Preferred Alternative 2 are supported by industry and are less restrictive than proposed for Alternative 3. Preferred Alternative 2 and Alternative 3 would each result in more fishing trips and longer open seasons, with the largest number of trips and longest open seasons projected for Alternative 3. However, although the fishery as a whole will experience a net increase in fishing trips under both Alternatives 2 and 3, the trip limits will result in a reallocation of harvests among the competing gear sectors and net revenue losses to certain individual vessels such that, fishery wide, there will be a net loss in net revenues under both alternatives associated with just the trip limits. Total net revenue loss associated with the trip limits is greater for Alternative 3 compared to Preferred Alternative 2, and the trip limits may be overly restrictive for achieving the goal of mitigating the effects of a derby. Preferred Alternative 2 is estimated to result in net revenue losses of \$209,000-\$219,000, whereas Alternative 3 is estimated to result in net revenue losses of \$422,000-\$533,000. The vertical line and 'other' gear sectors are projected to gain revenues under both alternatives, while the bottom longline sector is projected to experience increased losses. Alternative 3 would result in the greatest net losses for the longline sector and the greatest net revenues for the vertical line sector. Net revenue losses are projected to be greatest off west-central Florida. Both Preferred Alternative 2 and Alternative 3 are expected, however, to negate the unquantifiable effects of a derby fishery, which would occur under the status quo (Alternative 1). Thus, although a complete quantitative analysis, capturing both the losses associated with the trip limits and the benefits associated with mitigating the effects of a derby, it is expected that the benefits gained from mitigating these effects exceed the net revenue losses associated with the trips limits such that, overall, there will be a net gain in economic performance of the fishery, with associated gains in the social and community environment.

A more detailed analysis of the impacts on fishery participants and their communities is found in Section 4.0 and Section 5.0 herein.



## **1.0 INTRODUCTION**

### **1.1 Background**

The National Marine Fisheries Service (NOAA Fisheries Service) implemented Secretarial Amendment 1 to the Reef Fish Fishery Management Plan of the Gulf of Mexico on July 15, 2004. This amendment established a rebuilding plan and commercial quota for red grouper and reduced the quotas for deep-water grouper (DWG) and shallow-water grouper (SWG). The quota for red grouper was set at 5.31 million pounds gutted weight (mp GW), the quota for DWG was reduced from 1.35 mp GW to 1.02 mp GW, and the quota for SWG, which includes red grouper, was reduced from 9.35 mp GW to 8.8 mp GW. The reduction in the SWG quota was based on a stock assessment of red grouper (SEFSC 2002), which indicated red grouper were undergoing overfishing and a 9.4 percent reduction in red grouper harvest was needed to end overfishing and rebuild the stock. The reduction in DWG harvest was a pro-active conservation measure by the Gulf of Mexico Fishery management Council (Council) intended to limit fishing effort displaced from the SWG fishery as a result of increased fishing restrictions (NOAA Fisheries Service 2004a).

On July 15, 2004, the same day Secretarial Amendment 1 was implemented, the DWG fishery was closed. The SWG fishery closed later in the year on November 15, 2004, after the red grouper quota was met. Deep-water grouper commercial landings for 2004 totaled 1.21 mp GW; a reduction of 25 percent from 2003. Preliminary red grouper commercial landings for 2004 totaled 5.24 mp GW, an increase of 6 percent from 2003. Preliminary SWG commercial landings for 2004 totaled 8.24 mp GW; an increase of 3 percent from 2003.

At the November 7-10, 2004, meeting, the Council received a request for an emergency rule to establish combined trip limits for DWG and SWG. Trip limits were proposed jointly by the Southern Offshore Fishermen's Association (SOFA) and Gulf Fishermen's Association to extend the commercial SWG and DWG fishing season in 2005. In a November 17, 2004, letter to the Regional Administrator, the Council requested NOAA Fisheries Service implement either by interim or emergency rule a trip limit proposed by industry (Preferred Alternative 2, herein) for the 2005 commercial grouper fishing year.

### **1.2 Authority to Promulgate Emergency Regulations**

The Secretary of Commerce (Secretary) has authority to establish emergency actions or interim measures if an emergency or overfishing exists or interim measures are needed to reduce overfishing (Sec. 305(c), MSFCMA). The Secretary may promulgate emergency actions or interim measures to address the emergency if the Council, by less than a unanimous vote, requests such an action (Sec. 305(c)(2)(B), MSFCMA). Any emergency regulation that changes an existing fishery management plan or amendment must be published in the *Federal Register* and shall remain in effect for not more than 180 days, unless extended by one additional period for no more than 180 days (Sec. 305(c)(3)(A and B), MSFCMA). The Secretary may terminate an emergency regulation at an earlier date if the Council requested the action and the Council agrees with the Secretary to terminate the emergency action prior to the end of the 180-day period (Sec. 305(c)(3)(D), MSFCMA).

### **1.3 Purpose and Need for Action**

In 2005, the Council expects the rate of commercial grouper harvest to increase due to quota closures in 2004 and improvements in the status of red grouper as a result of the rebuilding plan and recently implemented management measures. The Council intends to consider permanent trip limits as part of a regulatory amendment to set SWG total allowable catch (TAC) in 2006. However, emergency action is needed in the interim to moderate the rate of commercial grouper harvest, while still allowing all vessels, including high-capacity vessels, an opportunity to participate in the fishery.

The purpose of this emergency action is to prolong the fishing year and reduce the adverse socio-economic effects of derby fishing, especially early in the year. Additionally, establishing trip limits would enhance quota monitoring and reduce the potential for overfishing. Initial trip limits would continue to allow all vessels an opportunity to participate in the fishery during the early part of the fishing season. Mid- to late-year trip limit reductions are intended to slow harvest late in the year, avoiding an increase in the rate of harvest associated with an impending quota closure, thereby allowing fishermen an opportunity to conduct more fishing trips.

### **2.0 MANAGEMENT ALTERNATIVES**

**ALTERNATIVE 1: Status Quo – Do not establish an aggregate trip limit for deep-water and shallow-water groupers.**

**Preferred=> ALTERNATIVE 2: Establish an aggregate deep-water grouper and shallow-water grouper trip (possession) limit. At the beginning of the fishing year (January 1) all vessels will be limited to a 10,000-pound gutted weight trip limit for both deep-water and shallow-water grouper combined; if on or before August 1, the fishery is estimated to have caught more than 50 percent of either the shallow-water grouper or the red grouper quota, then a 7,500-pound gutted weight trip limit would take effect for all groupers; if on or before October 1, the fishery is estimated to have caught more than 75 percent of either the shallow-water grouper or red grouper quota, then a 5,500-pound gutted weight trip limit would take effect for all groupers until the end of the fishing year or when the quota for either shallow-water grouper or red grouper is met, whichever comes first.**

**ALTERNATIVE 3: Establish an aggregate deep-water grouper and shallow-water grouper trip (possession) limit. At the beginning of the fishing year (January 1) all vessels will be limited to a 7,500-pound gutted weight trip limit for both deep-water and shallow-water grouper combined; when 50 percent of either the shallow-water grouper or red grouper quota is caught, then a 5,000-pound gutted weight trip limit would take effect for all groupers until the end of the fishing year or when the quota for either shallow-water grouper or red grouper is met, whichever comes first.**

Discussion: Section 1502.14 of the Council on Environmental Quality (CEQ) regulations requires agencies to explore and objectively evaluate all reasonable alternatives for an action,

including the no action alternative. The analysis of alternatives shall describe the environment to be affected by the action (see Section 3.0) and the environmental consequences of each of the alternatives (see Section 4.0) (Part 1502.14, CEQ). Alternatives shall be presented in comparative form to provide a clear basis for why decision makers selected the preferred alternative(s).

The following is a brief description of each of the three alternatives. A more detailed description of the environmental consequences associated with each of these alternatives can be found in Section 4.0. Section 3.0 describes the physical, biological, social, economic and administrative environments affected by this action. Section 5.0 provides a detailed discussion of the economic impacts of this action.

**Alternative 1** would continue to allow commercial fishermen to harvest an unlimited quantity of grouper per trip. Only a vessel's capacity, the length of time a vessel could remain at sea, and how successful a vessel is at capturing grouper each trip would dictate how much grouper fishermen could harvest per trip. This alternative would allow vessels of all capacities to participate in the fishery during the entire fishing season until the quotas are met and the DWG and SWG fisheries are closed. If the rate of harvest during the 2005-fishing season is similar to or faster than the rate of harvest in 2004, then the SWG fishery is projected to close on or before November 15<sup>th</sup>. The Council expects the rate of commercial grouper harvest to increase in 2005. This alternative would not prevent or reduce the adverse socio-economic effects if a derby fishery develops.

**Preferred Alternative 2** was proposed by industry and establishes a combined trip limit for SWG and DWG. At the start of the fishing year, a 10,000-pound GW trip limit would take effect. This trip limit is intended to deter a derby fishery from developing early in the year, while allowing large capacity vessels to participate in the fishery. The trip limit would be reduced later in the fishing season once 50 percent and 75 percent of either the SWG or red grouper quotas are met. These latter trip limit reductions are intended to slow the rate of harvest, thereby prolonging the fishing season and allowing additional fishing trips to be made. Based on landings data for 2001-2004, it is estimated this alternative would prolong the DWG fishing year by 4-13 days and the SWG fishing year by 8-16 days (Poffenberger and McCarthy 2004b).

**Alternative 3** is similar to **Preferred Alternative 2** in that it establishes a trip limit at the start of the fishing year. A 7,500-pound GW trip limit would take effect at the start of the fishing season. This lower trip limit would initially affect a larger number of vessels and trips than the 10,000-pound GW trip limit proposed in **Preferred Alternative 2**. Once 50 percent of the quota is met, the trip limit would be reduced to 5,000 pounds GW. This alternative is estimated to extend the SWG fishing season until mid-to-late December, based on landings data from 2001-2004 (Poffenberger and McCarthy 2004b). If DWG landings in 2005 are similar to landings in 2004, this alternative will extend the DWG fishing season by approximately 10 days.

Relative to the status quo (**Alternative 1**), both **Preferred Alternative 2** and **Alternative 3** would reduce the derby pressure, though the limits specified by **Alternative 3** may be overly restrictive. Both **Preferred Alternative 2** and **Alternative 3** are projected to result in more fishing trips and longer open seasons, with the largest number of trips and longest open seasons

projected for **Alternative 3**. Lost net revenues associated with the trips limits, however, are greater for **Alternative 3** compared to **Preferred Alternative 2**. Both **Preferred Alternative 2** and **Alternative 3** should be capable of achieving the benefits of mitigating the effects of a derby and lessening the likelihood of lost markets due to longer quota closures. However, **Preferred Alternative 2** produces less net revenue losses than **Alternative 3** while still achieving the goal of prolonging the fishing season.

**All of the alternatives** would result in negligible effects on the physical environment. **Preferred Alternative 2** and **Alternative 3** are not expected to change the gears used to harvest grouper. Both alternatives will increase the number of commercial fishing trips and therefore interactions with habitat. However, any increase in fishing trips would be minimized or negated by a decrease in the duration (days at sea) of some trips, which currently obtain the maximum trip limit specified by **Preferred Alternative 2** or **Alternative 3**.

The trip limits proposed under **Preferred Alternative 2** and **Alternative 3** would maintain the biological protections afforded by existing total allowable commercial catch quotas, but could alter the magnitude and/or composition of bycatch in the fishery, or promote effort shifting to other non-grouper fish species after trip limits have been achieved. The trips limits proposed under **Preferred Alternative 2** are less restrictive than **Alternative 3**, making it less likely that effort would shift to other species once trip limits are reached. **Alternative 3** prolongs the grouper fishing seasons longer than **Preferred Alternative 2**, allowing fishermen a shorter time period to target other species once quotas are met. Even if effort shifting occurs, most commercial fisheries in the GOM are managed by quotas and limited access programs that limit harvest and cap effort, thereby reducing or minimizing adverse biological and ecological effects.

**Preferred Alternative 2** and **Alternative 3** are expected to produce both positive and negative administrative effects relative to the status quo (**Alternative 1**). Both alternatives would slow the rate of harvest and improve the accuracy of predicting the end of year closure, thereby reducing the likelihood of overfishing. Both alternatives would also increase the administrative burden of enforcing trip limits and predicting when quotas would be reached. However, each of these activities is part of the normal administrative activities of NOAA Fisheries Service.

### **3.0 AFFECTED ENVIRONMENT**

Section 1502.15 of the CEQ regulations states “environmental impact statements shall succinctly describe the area(s) to be affected or created by the alternatives under consideration.” A brief description of the affected environment is included herein. More detailed descriptions of the affected environment can be found in the draft environmental impact statement (EIS) to the Generic EFH Amendment (GMFMC 2004a) and Secretarial Amendment 1 to the Reef Fish FMP (NOAA Fisheries Service 2004a), and are incorporated herein by reference.

#### **3.1 Physical Environment**

The grouper fishery occurs throughout the Gulf of Mexico, but is primarily concentrated on the West Florida Shelf. Most commercial landings of SWG occur off of Florida over hard-bottom habitat (see Section 3.1). In the western GOM, DWG are harvested over rocky ridges or flat

bottom, near banks or 'lumps' (see Cass-Calay and Bahnick 2002). Deep-water groupers also occur near the shelf-edge over sand, mud and shell bottom (see Cass-Calay and Bahnick 2002).

The GOM is bounded by Cuba, Mexico, and the United States, and has a total area of 564,000 km<sup>2</sup>. Continental shelves occupy about 35 percent of the total GOM and the west Florida shelf (about 150,000 km<sup>2</sup>) is the second largest shelf in the United States after Alaska. Approximately 450 million metric tons of sediment is deposited annually in the GOM. The Mississippi and Atchafalaya rivers account for over half of the freshwater discharge into the Gulf. Oceanic conditions are primarily affected by the Loop Current, the discharge of freshwater into the northern Gulf, and a semi-permanent, anticyclonic gyre in the western Gulf.

The GOM can be divided into two major sediment provinces. East of DeSoto Canyon and southward along the Florida coast, sediments are primarily carbonates (Figure 1). Coarse surface deposits include quartz sand, carbonate sand, and mixtures of the two. To the west of DeSoto Canyon, sediments are terrigenous. Coarse sediments make very shallow nearshore bottoms from the Texas/Mexican border to off central Louisiana (Figure 2). Beyond 80 m, fine sediments are also strongly represented. Fine sediments from the Mississippi and Atchafalaya rivers are limited to the northern GOM shelf.

The West Florida Shelf provides a large area of hard bottom habitat (Figure 1). It is comprised of low relief hard bottoms that are relict reefs or erosional structures. Some high relief can be found along the shelf edge in waters 130 to 300 m deep. Hard bottom provides extensive areas where reef biota such as corals can become established. These hard bottom areas have become important reef fish fishing areas (e.g., Florida Middle Grounds, Tortugas).

Off the Alabama/Mississippi shelf and shelf break, irregular-shaped aggregates of calcareous organic forms called pinnacles are found. These pinnacles average about 9 m in height and are found in waters about 80 to 130 m deep. In addition to the pinnacles, low-relief hardbottom areas can be found in waters less than 40 m adjacent to Florida and Alabama.

Muddy or sandy terrigenous sediments dominate the Louisiana/Texas shelf, but banks and reefs do occur on the shelf (Figure 2). Mid-shelf banks made of bare, bedded Tertiary limestones, sandstones, claystones, and siltstones are found from water depths of 80 m or less and have relief of 4 to 50 m (Rezak et al. 1985). Relict reefs made of carbonate are found from water depths of 14 to 40 m and have a relief of 1 to 22 m. The Flower Garden Banks National Marine Sanctuary is located about 150 km directly south of the Texas/Louisiana border. This coral reef is perched atop two salt domes rising above the sea floor and ranges from 15 to 40 m deep.

### **3.2 Biological Environment**

Shallow-water and deep-water groupers are part of a multispecies fishery in the Gulf of Mexico. The Reef Fish FMP includes 42 species of reef fish comprising six families: Balistidae (triggerfishes), Carangidae (jacks), Labridae (wrasses), Lutjanidae (snappers), Malacanthidae (tilefishes), and Serranidae (groupers). Seventeen grouper species are included in the Reef Fish FMP, of which 13 are managed by commercial quotas, two are prohibited from harvest, and two species are not in the management unit (sand perch and dwarf sand perch). Shallow-water

groupers in the management unit include: red grouper, black grouper, gag, yellowfin grouper, scamp, yellowmouth grouper, rock hind, and red hind. Deep-water groupers in the management unit include: yellowedge grouper, warsaw grouper, snowy grouper, speckled hind, and misty grouper. Gag and red grouper are the most commonly harvested SWG species in both the commercial and recreational sectors. Nearly all deep-water grouper landings are by commercial fishermen. Yellowedge grouper is the most commonly harvested DWG species.

### **3.2.1 Biology and Life History**

Secretarial Amendment 1 (NOAA Fisheries Service 2004a) and Amendment 24 to the Reef Fish FMP provide (GMFMC 2004d) detailed descriptions of the biology and life history of reef fish, and are incorporated herein by reference.

#### **3.2.1.1 Groupers**

Groupers are found throughout the Gulf of Mexico, although they are most abundant on the West Florida Shelf. In general, groupers are long lived and slow to mature. Maximum lengths of groupers in the GOM range from 89 cm total length (TL; scamp) to 250 cm TL (goliath grouper), with most groupers reaching a maximum length of slightly greater than 1 m. Yellowedge grouper is the longest-lived grouper, reaching a maximum age of 85 years. Rock hind, Nassau grouper, and speckled hind have shorter life spans than most groupers, with maximum ages ranging from 12 to 17 years. Gag and red grouper reach maximum ages of 26 and 28 years, respectively (Harris and Collins 2000). Maximum weights for groupers range from 6.2 kg (yellowmouth grouper) to 320 kg (goliath grouper). Black grouper are the largest of the SWG species, reaching a maximum length and weight of 151 cm TL and 82 kg, respectively. Warsaw grouper are the largest of the DWG species, reaching a maximum length and weight of 233 cm TL and 190 kg, respectively.

Most groupers mature between 3 and 5 years, although Nassau grouper, goliath grouper, and yellowedge grouper are known to mature as late as 7-8 years of age. Many, but not all groupers are protogynous hermaphrodites and transition from females to males, as they grow larger. Goliath grouper are not protogynous hermaphrodites, and the reproductive strategies for misty grouper, speckled hind, and Nassau grouper are unknown. Groupers spawn throughout the year, with peak spawning for most groupers occurring in winter and spring (December through May). Gag, black grouper, scamp, yellowfin grouper, goliath grouper, red hind and Nassau grouper are known to form spawning aggregations. The formation of spawning aggregations is suspected for rock hind, yellowedge grouper, speckled hind, snowy grouper, and Warsaw grouper. Red grouper do not form spawning aggregations, but do form small harems to spawn.

#### **3.2.1.2 Other Reef Fishes**

Snappers, jacks, tilefishes, wrasses, and triggerfishes are harvested or incidentally captured by commercial grouper fishermen. Most of these reef fish species are managed by hard quotas or have rebuilding plans (red snapper, greater amberjack, vermilion snapper, tilefishes) that limit or prohibit harvest. A detailed description of the biology and life history of these reef fishes can be found in Secretarial Amendment 1 (NOAA Fisheries Service 2004a) and Amendment 24 to the

Reef Fish FMP (GMFMC 2004d), or at <http://www.gulfcouncil.org/downloads/Secretarial-Amendment-1-RF.pdf>.

### **3.2.1.3 Coastal Migratory Pelagics**

In 2004, coastal migratory pelagics accounted for 1% of the landings by vessels that reported at least one pound of SWG and DWG. The FMP for Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic includes seven species: king mackerel, Spanish mackerel, cobia, cero, bluefish, little tunny, and dolphin. King and Spanish mackerel are the most commonly harvested coastal migratory pelagics and a detailed description of their biology and life history can be found in draft Amendment 15 to FMP for Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic (GMFMC 2004e)

### **3.2.1.4 Highly Migratory Species**

Sharks are harvested or incidentally captured primarily by commercial longline vessels. In 2004, sharks represented 6.1 percent of landings by longline vessels that reported at least one pound of SWG or DWG. NOAA Fisheries Service regulates 72 species of sharks in the S. Atlantic, Gulf of Mexico, and Caribbean. Sharks are considered apex predators, have a low reproductive output, and usually congregate in specific areas to mate (NOAA Fisheries Service 2004c). Seventy-two species of sharks are included in the Fishery Management Plan for Atlantic Tunas, Swordfish and Sharks (NOAA Fisheries Service 2004c). A detailed description of the biology and life history of sharks can be found in Amendment 1 to the FMP for Atlantic Tunas, Swordfish and Sharks, or at: <http://www.nmfs.noaa.gov/sfa/hms/hmsdocuments.html#fmps>.

### **3.2.1.5 Protected Species**

There are 28 cetacean, one sirenian, and one non-native pinniped (California sea lion) species that have confirmed occurrences in the Gulf (Davis and Fargion, 1996). All of these species are protected under the MMPA. Additionally, six of these species (blue, fin, humpback, right, sei, and sperm whales) are listed as endangered species under the ESA. All five species of the sea turtles found in the Gulf (Kemp's ridley, loggerhead, green, leatherback, and hawksbill) are protected under the ESA. The endangered smalltooth sawfish is the only marine fish species listed under the ESA that is known to occur in federal Gulf waters. Information on the biology and status of all of these protected species is provided in GMFMC (2004a).

There are few documented interactions between the reef fish fishery and protected species. No documented interactions between the reef fish fishery and any marine mammals have been reported. NOAA Fisheries Service also does not have any documented reports of smalltooth sawfish taken by the Gulf of Mexico reef fish fishery. However, a total of 16 interactions (2 loggerhead turtles, 1 green turtle, and 13 unidentified turtles) between the reef fish fishery and sea turtles were reported by commercial fishermen from July 1, 2001, to June 30, 2003 (Poffenberger 2004).

### **3.2.2 Status of Reef Fish Stocks**

Many reef fish stock assessments and reviews can be found online at the Council's website ([www.gulfcouncil.org](http://www.gulfcouncil.org)) or on the SEFSC's website ([www.sefsc.noaa.gov](http://www.sefsc.noaa.gov)). Additionally, more complete descriptions of the status of some reef fish species are provided in the draft EIS to the Generic EFH Amendment (GMFMC 2004a) and Amendment 22 to the Reef Fish FMP (GMFMC 2004b).

Stock assessments have been completed for ten GOM reef fish species, four of which are groupers (red grouper, gag, goliath grouper, and yellowedge grouper). Red grouper is currently undergoing overfishing, but not overfished (SEFSC 2002; NOAA Fisheries Service 2004a). Gag was recently reclassified from not overfished but approaching an overfished condition to neither overfished or undergoing overfishing (NOAA Fisheries Service 2004d). Goliath grouper is overfished and the status of yellowedge grouper is unknown (NOAA Fisheries Service 2004d). With the exception of Nassau grouper, the status of other grouper species that have not been assessed is unknown. While no assessment has been conducted on Nassau grouper, landings progressively declined from 1979 to 1992 (GMFMC 1996). Amendment 14 to the Reef Fish FMP of the Gulf of Mexico prohibited the harvest of Nassau grouper and the stock is considered overfished (GMFMC 1996).

Four grouper species have been listed by NOAA Fisheries Service as candidate species for endangered or threatened species status. Goliath grouper and Nassau grouper were listed in 1991, and warsaw grouper and speckled hind were listed in 1997. These species were listed as candidate species based on evidence that the biological status of these species had declined and that the species faced a high degree of threat. The Council currently prohibits the harvest of Nassau and goliath grouper.

Stock assessments for six other reef fish species (vermilion snapper, red snapper, yellowtail snapper, greater amberjack, gray triggerfish, and hogfish) have been completed. Red snapper and vermilion snapper are overfished and undergoing overfishing. A revised red snapper rebuilding plan was recently implemented (GMFMC 2004b) and a proposed vermilion snapper rebuilding plan is in the implementation process (GMFMC 2004c). Greater amberjack is also overfished. A rebuilding plan for greater amberjack was implemented in Secretarial Amendment 2 to the Reef Fish FMP (NOAA Fisheries Service 2004b). An assessment of yellowtail snapper indicated the stock was not overfished or undergoing overfishing. Stock assessments were not able to resolve the status of the gray triggerfish and hogfish stocks; therefore, the status of these stocks is unknown. The statuses of other reef fish stocks that have not been assessed are unknown.

### **3.3 Economic Environment**

The grouper fishery in the GOM is comprised of the DWG fishery, in which yellowedge grouper is the dominant species, and the SWG fishery, in which red grouper and gag are the dominant species. Participants in the grouper fishery include commercial fishermen utilizing different types of gear: bottom longline, vertical line gear (hand line and bandit gear), fish traps, and powerheads for spearfishing. The fishery also includes various classes of recreational fishermen:

private anglers as well as charter, head and party-boat operators and their customers. From 1986-1999, commercial landings were about 77 percent of total red grouper catch while recreational harvest was about 55 percent of total catch of gag grouper (NOAA Fisheries Service 2004a). For the years 1996-99, commercial landings of red grouper were 87 percent of the total red grouper catch and recreational landings of gag grouper were 61 percent of the total gag catch. The grouper fishery occurs along the northeastern Gulf coast primarily along the west coast of Florida. The vast majority of the human activity related to the grouper fishery occurs in Florida.

### **3.3.1 Commercial Sector**

#### **3.3.1.1 Vessels**

Through 2000, there were approximately 1,200 active reef fish permits, with an unknown number in the process of renewal at any given time.

Among the gear sectors, bottom longline and buoy vessels have historically caught an average of 3.7 mp GW of grouper annually (mostly red grouper) valued dockside at \$7.1 million (Waters 2001). An average of 165 bottom longline vessels took an average of 1,410 trips per year (total across all vessels) from 1993-2000. On average, there were 894 vessels using vertical line gear from 1993-2000. Vertical line catch (mostly gag) averaged about 2.6 mp GW valued dockside at \$5.4 million per year. These vessels took 7,600 trips per year on average. From 1993-1999, an average of 60 vessels per year used powerheads to harvest groupers, averaging 3,000 pounds of grouper per year for a value of \$6,000. No grouper were reported harvested with powerheads in 2000. As of May 1998, there were 86 fish trap endorsements issued by NMFS. This number has been reduced to approximately 65 fish trap permits and the fishery will be phased out entirely in 2007. Between 1997-2000, vessels fishing with traps caught an average of 800,000 pounds valued at over \$1.4 million.

Waters (2002) provided participation rates by gear and state and reported that of the vessels with commercial reef fish permits, 782 vessels in Florida and 207 in other Gulf states indicated they landed reef fish using vertical lines in 2000. For the longline sector, 155 vessels in Florida and 33 in other Gulf States indicated landing reef fish using this gear in 2000. An additional 55 vessels, all of which are in Florida, reported landing reef fish using fish traps. Further examination of reef fish vessels showed that a total of 546 vessels participate in the SWG fishery on a more consistent basis. Of these vessels, 138 used longlines, 353 used vertical lines, and 55 used fish traps. Longlines accounted for 59 percent of commercial red grouper landings, hand lines accounted for 24 percent, and fish traps accounted for 16 percent. The corresponding percentages for gag are: 25 percent by longlines, 73 percent by hand lines, and 2 percent by fish traps. Other gear types account for a minuscule portion of the commercial landings of these species.

Waters (1996) reported results from a survey of the GOM commercial reef fish fishery that divided the vessels into high volume and low volume depending on whether or not they landed enough pounds to be in the top 75 percent of all vessels with a particular gear type in the fishery. The survey included vessels that reported using multiple types of gear. "Fishermen that primarily used fish traps for reef fishes tended to cite the use of fish traps, stone crab traps, rods

and reels and gill nets, among others. Respondents with vertical hooks and lines in the eastern Gulf used bandit reels, electric reels and rods and reels. Respondents that primarily used bottom longlines for reef fishes also tended to cite experience with vertical hook and line gear” (Waters 1996). The survey asked vessel owners to report on their two most important kinds of trips for reef fish, even if a non-reef fish alternative contributed more to the annual revenues of the boat. Comparisons were drawn between high volume and low volume boats within each category and between those in the northern Gulf and the eastern Gulf.

In the northern Gulf, catches differed by gear with vessels using vertical lines catching primarily snapper (red and vermilion) and vessels using bottom longlines catching primarily yellowedge grouper. Vessels in the eastern Gulf used bottom longlines, vertical lines, and fish traps and primarily caught groupers. The vessels with vertical lines in the northern Gulf were longer on average (50 feet) than those in the eastern Gulf (38 feet). Longline vessels averaged about 42-44 feet in length and vessels using fish traps averaged about 38 feet. The average horsepower (hp) across all gear types was about 280 hp, the lowest with the longline vessels and the highest with vessels using fish traps. High volume longline vessels had the highest fuel capacity out of a range of 32-6,000 gallons. The average fuel capacity was 689 gallons.

Survey respondents reported having lived an average of 25 years in their current county or parish of residence; the overall average age of respondents was about 47 years with the mode at the 40-49 age group; 141 (72 percent) graduated from high school or had more than 12 years of formal education (Waters 1996). Household size ranged from 1-9 persons with an average of 3 persons. Household incomes ranged from less than \$10,000 to more than \$150,000 with approximately 50 percent of the respondents citing household incomes of \$30,000 or less. Respondents averaged approximately 44 percent of household income from commercial fishing for reef fishes, 21 percent from other types of commercial fishing, and 35 percent from all other sources including incomes earned in non-fishing jobs held by other household members, pensions, investments and other sources. The respondents had an average of 19 years experience fishing, with 13.6 years of that experience in the positions they held at the time of the survey. Only 5 of the 196 respondents reported seasonal employment in other jobs. Typically, respondents from high volume vessels earned between 69-75 percent of household income from commercial fishing while, except for bottom longlining vessels, respondents from low volume vessels earned 25-39 percent of household income from commercial fishing (Waters 1996).

Waters (1996) also reported annual gross receipts per vessel in the reef fish fishery, as summarized by the following information:

High-volume vessels using vertical lines:	
Northern Gulf:	\$110,070
Eastern Gulf:	\$ 67,979
Low-volume vessels using vertical lines:	
Northern Gulf:	\$ 24,095
Eastern Gulf:	\$ 24,588
High-volume vessels using bottom longlines:	
Both areas:	\$116,989
Low-volume vessels using bottom longlines:	

Both areas:	\$ 87,635
High-volume vessels using fish traps:	\$ 93,426
Low-volume vessels using fish traps:	\$ 86,039

When combined with cost information, these figures translate into the following results for net income (defined as gross receipts less routine trip costs; the numbers in parenthesis represent the percent to gross receipts) (Waters 1996):

High-volume vessels using vertical lines:		
Northern Gulf:	\$28,466	(26)
Eastern Gulf:	\$23,822	(35)
Low-volume vessels using vertical lines:		
Northern Gulf:	\$ 6,801	(28)
Eastern Gulf:	\$ 4,479	(18)
High-volume vessels using bottom longlines:		
Both areas:	\$25,452	(22)
Low-volume vessels using bottom longlines:		
Both areas:	\$14,978	(17)
High-volume vessels using fish traps:	\$19,409	(21)
Low-volume vessels using fish traps:	\$21,025	(24)

Dokken et al. (1998) assessed several ports along the Texas coastline for economic development potential and employment generation. They estimated that over 250,000 persons were employed in all commercial fishery-related occupations (commercial fishing, processing, wholesaling and retailing) in the Gulf region.

Lucas (2001) estimated the economic impact on Madeira Beach, Florida, of the one and two-month closure of the grouper fishery; a one-month closure occurred in 2001, and a two-month closure was a potential alternative. About 135 vessels offloaded in Madeira Beach on a regular basis, landing about \$6.7 million in grouper per year. There were an estimated 87 bottom longliner vessels and 48 bandit/vertical line vessels off-loading in Madeira Beach, representing approximately 60-70 percent of the reef fish bottom longline fleet and 6 percent of the vertical line fleet. Four reef fish dealers, and about 401 fishermen (crew and captains) and 40 office workers were employed in fishery related activity in this area. Lucas (2001) reported about 70 percent of all grouper landed in Madeira Beach are consumed within about 40 miles of the area while 30 percent was sent to other parts of Florida, out of state and to Canada.

### **3.3.1.2 Performance Profile of Vessels Incorporated in Impact Assessment**

In support of the analysis of the expected impacts of the proposed action, logbook and permit files were examined for vessels with logbook reported landings of Gulf shallow-water and deep-water grouper from 2001-2003 (NOAA Fisheries Service unpublished data, 2005). The results of this examination are provided in the following sub-sections.

### **3.3.1.2.1 All Vessels**

In terms of 2001-2003 annual averages for logbook-reported data, 957 vessels landed 10.4 mp GW of Gulf shallow-water and deep-water grouper per year, with an estimated real ex-vessel value of \$26 million in 2001 dollars (Table 1). Grouper accounted for about half of all Gulf reef fish landed by all vessels with logbook reported reef fish landings, which totaled 19 mp GW, and included most of the 1,050 vessels involved in the reef fish fishery (Table 7). Median landings of grouper were roughly 2,200 to 2,500 pounds per vessel per year; e.g., half of the 975 vessels in 2001 had landings of 2,179 pounds or less per vessel per year, while the other half had landings of more than 2,179 pounds (Table 1). Grouper accounted for 68 percent to 74 percent of the annual gross revenue per vessel for all reported landings, roughly \$20,000 to \$21,000. The median vessel length was 37 feet, had 2-person crews (including the captain), had 275 to 300 horsepower engines, and spent 37 to 42 days at sea.

These vessels exhibited considerable variability. Twenty-five percent of the vessels had annual gross income for all fish landed of \$5,200 or less, while the maximum gross was within the range of roughly \$475,000 to \$575,000. For the most part, crews ranged from 2 to 4 persons; engines, 200 to 640 horsepower; vessels, 31 to 51 feet long; and the vessels spent 13 to 142 days at sea per year (25<sup>th</sup> and 90<sup>th</sup> percentiles).

Median trip landings were 234 to 283 pounds of Gulf shallow-water and deep-water grouper combined during 2001-2003, and the estimated dollar value of all fish landed on the trips was \$2,058 to \$2,133 (Table 2). Ninety percent of the roughly 11,000 trips in a year had landings of 2,543 to 2,720 pounds or less of grouper per trip in 2001-2003, while the top 1 percent of trips had landings of more than 8,165 to 8,467 pounds (annual 90<sup>th</sup> and 99<sup>th</sup> percentiles for trips, Table 2).

### **3.3.1.2.2 Longline Vessels**

During 2001-2003, an average of 165 longline vessels landed 5.6 mp GW of Gulf shallow-water and deep-water grouper per year, with an estimated real ex-vessel value of \$14 million in 2001 dollars (Table 3). This accounts for 86 percent of the landings of Gulf reef fish by longline vessels, 6.5 mp GW (Table 8). The median vessel length for this fleet was 43 to 45 feet, had 3-person crews (including the captain) and 228 to 240 horsepower engines. The median value trip lengths ranged from 113 to 121 days at sea, and the vessels had annual landings of grouper in the range of 25,000 to 27,000 pounds (Table 3). Grouper accounted for 84 percent to 89 percent of the vessels' annual gross revenue for all fish landed of \$96,000 to \$102,000.

Median trip landings were 2,532 to 2,555 pounds of Gulf shallow-water and deep-water during 2001-2003, and grouper accounted for 95 percent to 96 percent of estimated dollar value of all fish landed, \$5,871 to \$6,589 (Table 4). Ten percent of the trips had landings of more than 6,789 to 7,090 pounds, and 1 percent of the trips had landings of 11,395 to 12,984 pounds (respective annual 90<sup>th</sup> and 99<sup>th</sup> percentiles for trips, Table 4).

### **3.3.1.1.3 Hand line Vessels**

An average of 800 hand line vessels landed 3.8 mp GW of shallow-water and deep-water grouper per year in 2001-2003, with an estimated real ex-vessel value of \$9.9 million in 2001 dollars. This accounts for roughly one third of the landings of Gulf reef fish by hand line vessels, 11.6 mp GW, but 89 percent of the 899 hand line vessels (Table 9). The hand line vessels landing grouper were 35 to 36 feet long, had 280 to 300 horsepower engines, had 2 person crews, spent 33 to 35 days away from port for all fish landed, landed 1,206 to 1,406 pounds of grouper per year, and grouper accounted for 43 percent to 47 percent of their annual gross revenue for all fish landed (respective annual medians for vessels, Table 5).

The hand line vessels made roughly 8,400 to 8,500 trips per year with landings of grouper during 2001-2003. While median trip landings were 155 to 195 pounds, the top 10 percent of trips had landings of more than 987 to 1,368 pounds and the top 1 percent of trips had landings of more than 2,348 to 3,428 pounds (respective annual medians for trips, and 90<sup>th</sup> and 99<sup>th</sup> percentiles, Table 6).

### **3.3.1.2.3 Landings by Area and Gear**

Nearly half of all logbook-reported landings of all fish on trips with at least one pound of Gulf shallow-water or deep-water grouper were caught in waters off the west central coast of Florida during 2000-2004 (Table 11). Next in order were areas off northwest Florida (21.6 percent) and areas off western Louisiana (15.6 percent), followed by smaller amounts for other areas. For the Gulf as a whole, shallow-water grouper (8.0 mp GW), deep-water grouper (1.6 mp GW), mid-depth snappers (4.6 mp GW) and other fish contributed to the 2003 landings of 17.7 mp GW.

More than two-thirds of the landings for longline gear were caught in waters off the west central coast of Florida, an average of 4.7 out of 6.7 mp GW in 2000-2004. On the other hand, fish caught in waters off western Louisiana (25.3 percent), northwest Florida (28.1 percent) and west central Florida (24.9 percent) accounted for similar percentages of the overall landings for vertical line gear, which averaged 9.0 mp GW in 2000-2004. While longline vessels landed less fish than vertical line vessels for the Gulf as a whole, they landed more fish caught in waters off the west central Florida coast, 4.7 mp GW on average in 2000-2004 compared with 2.2 mp GW for vertical line vessels.

It is not unreasonable to infer that the economic impact of trip limits would fall differentially, and fall to a large degree on longline fishermen that land fish caught in waters off the west central Florida coast. Among the two major groups of commercial fishermen that land fish caught in waters off the west central Florida coast, one would expect the impact to be greater for longline fishermen than vertical line fishermen, given their respective total landings, 4.7 and 2.2 mp GW, and median trip landings, 2,357 to 2,960 pounds and 179 to 195 pounds (area landings, Table 11; trip landings for the Gulf as a whole, Tables 4 and 6).

### **3.3.1.3 Dealers**

Approximately 227 dealers possess permits to buy and sell reef fish species (NOAA Fisheries Service 2004a). Based on mail address data, most of these were located in Florida (146), with 29 in Louisiana, 18 in Texas, 14 in Alabama, 5 in Mississippi, and 15 out of the Gulf States region. More than half of all reef fish dealers are involved in buying and selling grouper. Between 1997-2000, there were on average 123 reef fish dealers actively buying and selling in the grouper market. Of these, 101 or 82 percent sold more than \$30,000 per year worth of domestic grouper on a regular basis. These dealers may hold multiple types of permits. Since the extent of business operation for these dealers is unknown, it is not possible to determine what percentage of their business comes from grouper fishing activity.

Average employment information per reef fish dealer is not known. Although dealers and processors are not synonymous entities, Keithly and Martin (1997) reported total employment for reef fish processors in the Southeast at approximately 700 individuals, both part and full time. It is assumed that all processors must be dealers, yet a dealer need not be a processor. Further, processing is a much more labor-intensive exercise than dealing.

Grouper sales take place at several locations along the Gulf coast but are concentrated in Florida. In 2000, more than 8 mp of grouper valued dockside at over \$18 million were landed on the Florida west coast. The top ten counties ranked by dockside value of grouper sales in 2000 are all in Florida: Pinellas (\$8.06 million), Bay (\$2.24 million), Franklin (\$1.25 million), Citrus (\$1.09 million), Lee (\$1.05 million), Collier (\$0.93 million), Manatee (\$0.78 million), Monroe (\$0.66 million), Levy (\$0.43 million), and Okaloosa (\$0.32 million). The top five counties account for over \$12 million in landings while the top 10 counties account for over \$16 million in landings of grouper.

The profit profile for dealers or processors is not known.

### **3.3.1.4 For-hire Vessels**

Many for-hire vessels (charter boats, headboats and party boats) in the Gulf of Mexico possess commercial permits and operate in the commercial reef fish fishery. Holland et al (1999) estimated that 22.1 percent of the for-hire boats they sampled (615 charter, 53 headboat), 22.1 held commercial reef fish permits in the GOM. While these commercial harvests would be included in the fishery summaries previously discussed above, the vessel operation characteristics of this sector are sufficiently different from strictly commercial operations. A detailed description of the economic characteristic of the for-hire sector can be found in NOAA Fisheries Service 2004a.

## **3.4 Social Environment**

A “fishing community” is defined in the MSFCMA, as amended in 1996, as “a community which is substantially dependent on or substantially engaged in the harvesting or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community.”

(MSFCMA section 3(16)). In addition, the National Standard guidelines (May 1, 1998; 63FR24211) define a fishing community as a social or economic group whose members reside in a specific location and share a common dependency on commercial, recreational, or subsistence fishing or on directly related fisheries-dependent service and industries (for example, boatyards, ice suppliers, tackle shops).

### **3.4.1 Measures of Fishing Dependence**

Many studies have identified fishing communities and assessed various methods for identifying an area or city as a fishing community, although very little information is available for fishing communities in the GOM (Dyer and Griffith 1996; Griffith 1996; Wilson et al. 1998; Jacob et al. 2001). Social and cultural research suggests that assessments of regulatory impacts on fishing-dependent communities consider not only geographic definitions of communities and economic characteristics therein, but also the level of vulnerability or resilience, of fishing communities and operations (McCay 2000). That is, questions of fishing dependence and “sustained participation” in fisheries must consider how able participants in a given fishery can move among fishery sectors, and how able they are to move out of the fishery altogether into alternative employment opportunities. Studies must take into account not only the economic characteristics but also the demographic and social characteristics of the areas where fishing activity occurs and strategies for assessing and ranking these characteristics and variables must be developed and analyzed. Some factors that have been previously used to assess a community’s dependence on fishing include:

- 1) Economics, including percent employment in fishery-related industries, and unemployment levels, and income;
- 2) Fisheries characteristics, including landings by species by various sectors;
- 3) Fishing-related businesses, for example numbers of marinas, rentals, snorkel and dive shops, boat dockage and repair facilities, tackle and bait shops, fish houses, and lodgings related to recreational fisheries industry;
- 4) Fishing-related activities, such as seafood festivals;
- 5) Presence of organizations, such as commercial fishing associations
- 6) Numbers of dealers/ processors
- 7) Isolation or integration of the fishery into alternative economic sectors (Do the fishers represent a political-economic enclave or are they integrated into the community?);
- 8) Percent of population in fishery or fishery-related industry;
- 9) Percentage of income derived from fishing;
- 10) Time commitment (number of months per year, and number of years of experience, etc.);
- 11) Flexibility index (number of species able to fish, gears/vessels, etc.);
- 12) Number of different kinds of vessels;
- 13) Relationship to the seafood marketing/processing sector;
- 14) Vessel sizes and sizes of crew by port/ dockage site;
- 15) Diversity of species targeted, gear, type and size and vessel by port/ dockage site;

Although these factors do not represent a comprehensive list of all factors that could be considered when defining a fishing community, they provide a snapshot of factors that represent or can be used to assess a community’s dependence on fishing. There is very little qualitative

information on fishermen, fishing-dependent businesses, or communities that depend on the GOM reef fish fishery. Social science research is currently being conducted by NOAA Fisheries Service in communities in the Gulf of Mexico. Until this research is completed, and in-depth community profiles are developed for some sample communities, it is not possible to fully understand the possible impacts of any change in federal fishing regulations in the reef fish fishery.

### **3.4.2 Grouper Fishing Communities**

Current data describing GOM reef fish fishing communities is limited to information from fishery permits and reported landings (see Section 3.4.2). Additional research is needed to assess the overall dependence on fishing of each of the communities described below

Within the reef fish fishery, there are numerous cities throughout the GOM where grouper fishermen are concentrated. Fishermen operating bottom longline vessels are primarily clustered in Florida (Cortez, Madeira Beach, Miami, St. Petersburg, and Tampa). Fishermen operating vertical line vessels are clustered across a wider geographic range: Apalachicola, Carrabelle, Cedar Key, Clearwater, Crystal River, Destin, Ft. Myers, Indian Rocks, Madeira Beach, Marathon, New Orleans, Panacea, Panama City, Pensacola, Nokomis, St. Petersburg, Steinhatchee, Tampa, Tarpon Springs, and Yankeetown in Florida; Orange Beach, AL; Pascagoula, MS; and Houston, TX. Fish trappers are also clustered off Florida in Destin, Homosassa, Naples, Steinhatchee, and Tarpon Springs. Cities with more than three reef fish permitted dealers include: Cameron, LA; Galveston, TX; and Destin, Ft. Myers Beach, Key West, Madeira Beach, Marathon, Panama City, Pensacola, St. Petersburg, Tampa, and Tarpon Springs, FL.

The top 20 cities in terms of grouper sales together accounted for over \$18 million of grouper sales in 2000. This is over 85 percent of all grouper sales in the Gulf for 2000. The sales, coming from various numbers of vessels and dealers in each location, represent a minimum of \$200,000 per year per area. The ranking of the cities presented here change relatively little over the period, 1997-2000. The cities in order of sales ranking are Madeira Beach, Panama City, Apalachicola, St. Petersburg, Tarpon Springs, Crystal River, Ft. Myers Beach, Key West, Tampa, Naples, Clearwater, Steinhatchee, Miami, Cortez, Destin, Homosassa, Panacea, Everglades, Golden Meadow, Stock Island.

In general, many areas with substantial involvement in fishing have small populations, many with less than 7,000 persons, for example Apalachicola, Carrabelle, Cedar Key, Cortez, Homosassa, Ft. Myers Beach, Everglades City, Madeira Beach, and Stock Island. Several of these areas have an unusually high rate of people with less than a high school education, some as high as 50 percent. With exceptions (Carrabelle, 13.6 percent and Cedar Key, 12.2 percent), many of the areas have relatively low percentages, 2-3 percent, counted as employed in agriculture, forestry and fishing. In areas such as these, with lower population bases, less educated workforces, and fewer opportunities in similar professions, losing fishing opportunities will impact the area relatively more than in areas with a more diverse working conditions.

### **3.4.3 Regulatory Impacts on Fishing Communities**

Fishing communities can be impacted in a variety of ways by regulations. Wilson et al. (1998) outlined three categories of impacts on fishing communities: 1) Those that “affect the volume of money that is going through the community;” 2) those that “affect the flexibility of the fishing operations;” and 3) those that “impose direct costs on fishing operations.”

The trip limits proposed herein will ultimately impose direct costs on fishing operations and losses in net revenue for some fishing communities or areas. The direct and indirect effects of these proposed regulations are described in detail in Sections 4.3 and 4.4.

## **3.5 Administrative Environment**

### **3.5.1 Federal Fishery Management**

Federal fishery management is conducted under the authority of the MSFCMA (16 U.S.C. 1801 et seq.). The MSFCMA claims sovereign rights and exclusive fishery management authority over most fishery resources within the exclusive economic zone (EEZ ) and authority over US anadromous species and continental shelf resources that occur beyond the EEZ.

Responsibility for federal fishery management decision-making in the GOM is divided between the U.S. Secretary of Commerce (Secretary) and the GMFMC. The GMFMC is responsible for preparing, monitoring, and revising management plans for fisheries needing management within their jurisdiction. Currently the Council has FMPs for coastal migratory pelagics, reef fish, coral and coral reefs, spiny lobster, stone crabs, red drum, and shrimp. The Secretary is responsible for promulgating regulations to implement proposed plans and amendments after ensuring that management measures are consistent with the MSFCMA, and with other applicable laws. In most cases, the Secretary has delegated this authority to NOAA Fisheries Service.

A variety of commercial and recreational fishing regulations have been implemented for GOM fisheries, including: quotas, limited entry programs, bag limits, trip limits, closed seasons and areas, size limits, etc. Quotas have been established for SWG, DWG, red snapper, tilefishes, and mackerels. There are also limited entry programs or moratoria for king mackerel, reef fish, fish traps, and red snapper. Quotas are also in effect for highly migratory species not regulated by the Council, such as sharks.

The Southeast Fisheries Science Center (SEFSC) conducts a variety of research and monitoring activities to support management of fishery resources in the Gulf of Mexico and South Atlantic. Some of the activities conducted by the SEFSC include: biological and socio-economic research, collection of landings and fishing effort data, monitoring quotas, and conducting stock assessments. Currently the SEFSC monitors quotas for the following species in the Gulf of Mexico: red snapper, SWG, DWG, tilefish, king mackerel and Spanish mackerel.

Federal fishing regulations are enforced through actions of NOAA’s Office of Law Enforcement, the United States Coast Guard (USCG), and various state authorities. To better coordinate

enforcement activities, federal and state enforcement agencies have developed cooperative agreements to enforce the MSFCMA.

### **3.5.2 State Fishery Management**

State representatives participate on the Council in order to ensure participation in federal fishery management decision-making and to promote the development of compatible regulations in state and federal waters. The state governments of Texas, Louisiana, Mississippi, Alabama, and Florida have the authority to manage their respective state fisheries including enforcement of fishing regulations. Each of the five Gulf states exercises legislative and regulatory authority over their natural resources and cooperate with numerous state and federal regulatory agencies when managing marine resources.

## **4.0 ENVIRONMENTAL CONSEQUENCES**

This section provides the scientific and analytical basis for comparing the alternatives described in Section 2.0. The potential direct, indirect, and cumulative effects on the physical, biological, socioeconomic, and administrative environments for each management alternative are described below. This section also describes: 1) any unavoidable adverse effects resulting from the proposed action, 2) the relationship between short-term uses of the human environment and long-term productivity, and 3) any irreversible or irretrievable commitments of resources resulting from implementation of the proposed action.

The Council on Environmental Quality (CEQ) regulations (40 CFR 1508.8) define direct effects as those “which are caused by the action and occur at the same time and place.” Indirect effects are defined as those “which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” Cumulative effects are defined as “impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions.”

### **4.1 Direct and Indirect Effects on the Physical Environment**

This emergency action would be effective for a maximum of 360 days (180 days + one additional 180 day extension). Because of the short duration of this action, all effects on the physical environment are expected to be short-term. The following describes direct and indirect effects on the physical environment during the time period this emergency action would be effective. Longer-term effects could result if the Council establishes permanent trip limits after this emergency action.

**Alternative 1 (status quo)** would maintain status quo regulations, which allow commercial fishermen to harvest an unlimited quantity of grouper per trip, but cap the total allowable commercial catch of red grouper, SWG, and DWG at 5.31 mp GW, 8.8 mp GW, and 1.02 mp GW, respectively. The primary effects of the grouper fishery on the physical environment generally result from fishing gear interactions with the sea floor. Fishing gear can damage or disturb bottom structures and occasionally incidentally harvest such habitat. The degree to

which the grouper fishery directly or indirectly affects bottom habitat is unknown, but depends largely on the vulnerability of the affected habitat to disturbance, and on the rate that the habitat can recover from disturbance (Barnette 2001). Corals are more vulnerable to adverse impacts from fishing gear and slower to recover from such impacts than sand and mud bottom habitat (Barnette 2001).

Currently, several management regulations directly or indirectly protect essential fish habitat (EFH) in the GOM and prevent or minimize the impacts of reef fish fishing gears:

1. Longlines and buoy gear are prohibited within approximately the 50-fathom contour west of Cape San Blas, Florida, and within the 20-fathom contour east of Cape San Blas (Part 622.34(c) 50 CFR).
2. Fish traps and longlines are prohibited within the Florida Middle Grounds Habitat Area of Particular Concern (Part 622.34(b) 50 CFR).
3. Fish traps, powerheads, and roller trawls are prohibited within the Reef Fish Stressed Area (Part 622.34(g) 50 CFR).
4. Bottom fishing with all gears is prohibited within the Madison-Swanson, Steamboat Lumps, and Tortugas Marine Reserves ((Part 622.34(d) and (k) 50 CFR).

The primary gears used to harvest grouper are bottom longlines, vertical lines (bandit rigs and hook-and-line), and traps. Longlines accounted for 54.1 percent of the SWG and DWG commercial landings during 2001-2003, while vertical lines and traps accounted for 36.5 percent and 8.5 percent of the total commercial landings during this time period, respectively (Waters 2005). Other gears, such as spearguns, accounted for less than 1 percent of the total commercial landings during 2001-2003 (Waters 2005).

Longline gear is deployed over sand, mud, and hard bottom habitats using weights to keep the gear on the bottom. This gear can abrade, snag and dislodge smaller rocks, corals, and sessile invertebrates when retrieved (Bohnsack in Hamilton, 2000; Barnette 2001). The damage this gear causes is dependent on the substrate it is deployed on, as well as currents and the amount of line swept across the bottom by hooked fish (Barnette 2001). Vertical-line gear is less likely to damage bottom habitat than longlines, but can snag and entangle bottom structures and cause tear-offs or abrasions (Barnette, 2001). If lost or improperly disposed of, vertical lines may damage habitat by entangling marine life, such as corals (Hamilton 2000; Barnette 2001). Gears set on live substrate, such as fish traps, can also cause damage to corals, gorgonians, sponges, and submerged aquatic vegetation and divers can cause damage to habitat if they come in contact with the bottom while spearfishing.

The trip limits specified in **Preferred Alternative 2** and **Alternative 3** may directly affect habitat interactions by increasing or decreasing the number of trips used to harvest the annual catch quota, or by changing the composition of the fleet. However, any increases or decreases in habitat interactions are expected to have negligible effects on habitat. The trip limits proposed in **Preferred Alternative 2** and **Alternative 3** could increase the number of number of fishing trips taken during the fishing year. Any increase in fishing trips would be minimized or negated by a decrease in effort as the duration (days at sea) of some trips, which currently obtain the maximum trip limit specified by **Preferred Alternative 2** (10,000 lbs GW) or **Alternative 3**

(7,500 lb GW), is reduced. The trip limit schedule proposed by **Alternative 3** is expected to increase the number of fishing trips to a greater degree than that proposed by **Preferred Alternative 2**. However, **Preferred Alternative 2** would not reduce trip duration to the same extent as **Alternative 3**.

**Preferred Alternative 2** and **Alternative 3** could indirectly benefit the physical environment if the trip limits they propose serve to shift effort from longline vessels to vertical line vessels. Longline vessels are typically larger and have greater storage capacities, allowing longline vessels to take longer trips and harvest more fish per trip. Trip limits could make it less economically viable for some high capacity longline vessels to participate in the fishery, particularly as trip limits are reduced late in the year. If the trip limits proposed by **Preferred Alternative 2** and **Alternative 3** preclude these vessels from participating in the grouper fishery, then some fishing effort could shift from longline vessels to vertical line vessels. Vertical lines are less likely to damage bottom habitat than longlines (see discussion above). The trip limits proposed by **Alternative 3** are less than those proposed by **Preferred Alternative 2** and, therefore, more likely to limit the participation of longline gear in the grouper fishery. However, the potential effects of shifting effort from longline vessels to vertical line vessels are unpredictable and expected to be minor under the specified trip limit because the specified trip still allows for profitable participation by larger capacity vessels.

**Preferred Alternative 2** and **Alternative 3** are not expected to change the participation of fish trappers in the grouper fishery, as few fish trap vessels harvest (< 7 percent during 2001-2003) more than 5,000 pounds of SWG and DWG per trip. Additionally, fish traps require both a reef fish permit and a trap endorsement, both of which are under a moratorium. Further, the use of fish traps will be prohibited after February 7, 2007, in federal waters of the GOM.

#### **4.2 Direct and Indirect Effects on the Biological/Ecological Environment**

This emergency action would be effective for a maximum of 360 days (180 days + one additional 180-day extension). Because of the short duration of this action, all effects on the biological and ecological environment are expected to be short-term. The following describes direct and indirect effects on the biological/physical environment during the time period this emergency action would be effective. Longer-term effects could result if the Council establishes permanent trip limits after this emergency action.

**Alternative 1 (no action)** would maintain status quo regulations, which allow commercial fishermen to harvest an unlimited quantity of grouper per trip, but cap the total allowable catch of red grouper, SWG, and DWG at 5.31 mp GW, 8.8 mp GW, and 1.02 mp GW, respectively. Total allowable catch quotas are designed to directly benefit the biological and ecological environment by protecting grouper stocks from the adverse effects of overfishing. However, failing to institute trip limits to moderate the rate at which annual catch quotas are harvested can result in a “derby-style” fishery, which is characterized by a race among fishery participants to land the maximum amount of fish possible before the annual catch quotas are achieved and the fishery is closed.

Derby fishing generally shortens the fishing season, which can directly adversely affect the biological and ecological environment if participants in the derby fishery increase pressure on other fish stocks after the derby fishery has been closed. In addition to increasing fishing mortality on other species, such an effort shift could increase bycatch if fishermen continue to fish in the same areas inhabited by the species targeted in the derby fishery. However, catch quotas manage most commercially important fisheries in the GOM and limited entry programs, which are expected to minimize or prevent effort shifting after a fishery closure. The trip limits proposed in **Preferred Alternative 2** and **Alternative 3** would not eliminate the biological protections afforded by existing total allowable catch quotas, but would simply cap the amount of fish that can be landed per trip to distribute harvest and fishing mortality over a longer period of time. Based on current levels of fishing effort (commercial trips), the proposed trip limits would not prevent fishermen from harvesting the annual catch quotas in a given year.

Trip limits also could directly affect the biological and ecological environment by altering the magnitude and/or composition of bycatch in the fishery, or by promoting effort shifting to other non-grouper fish species after trip limits have been achieved. Based on 2004 logbook data, grouper accounted for 60 percent of the landings for trips with at least one pound of DWG or SWG landings (Waters 2005). Other species commonly harvested or incidentally caught on trips harvesting grouper include shallow-water and mid-shelf snappers (25.5 percent), jacks (3.7 percent), grunts and porgies (2.7 percent), and sharks (2.5 percent) (Waters 2005). The type of species harvested depends largely on gear type. Vertical line fishermen primarily harvest groupers, snappers and jacks, while longline vessels primarily harvest groupers, sharks, and tilefishes. Most landings by fish trap vessels are groupers or grunts and porgies.

If fishermen continue fishing for reef fish found in the same habitat as grouper after reaching their trip limit, there could be an increase in grouper release mortality from regulatory discards. However, if fishermen stop fishing once reaching their trip limit for grouper, then regulatory discards and fishing mortality on other species could be reduced. Additionally, regulatory discards and fishing effort directed toward other species could increase or decrease depending on whether commercial grouper fishermen continue to fish for other reef fishes once quotas are met.

As stated above, we do not expect such a shift in effort because 70 percent of the total annual harvest, which consists of the most valuable reef fish species (red snapper, SWG, and DWG), is governed by hard quotas that prohibit harvest when quotas are met. Several other species are also governed by commercial quotas (sharks, tilefish, mackerels) and/or have limited entry programs (red snapper, sharks, mackerels) that cap the number of vessels that can participate in the fishery. Other species not governed by hard quotas, such as vermilion snapper, are under rebuilding plans intended to limit harvest.

**Preferred Alternative 2** is expected to affect only a small number of trips. That alternative proposes an initial trip limit of 10,000 lbs GW, followed by a reduced trip limit of 7,500 lbs GW or 5,500 lbs GW, depending on the rate of harvest throughout the fishing year. During 2001-2003, 151 trips (0.5 percent) landed greater than 10,000 pounds of grouper, 472 trips (1.4 percent) landed greater than 7,500 pounds of grouper, and 1,142 trips (3.5 percent) landed greater than 5,500 pounds of grouper (Waters 2005). Less than 5 percent (69 out of 1452) of all fish trap trips and less than 1 percent (61 out of 24,779) of all vertical line trips landed greater

than 5,500 pounds of grouper during 2001-03 (Waters 2005). In contrast, greater than 19 percent (1011 out of 5213) of all longline trips landed greater than 5,500 pounds of grouper during this time period. (Waters 2005)

This alternative is estimated to prolong the DWG fishing year by 4-13 days and the SWG fishing year by 8-16 days (Poffenberger and McCarthy 2004b). If fishing in 2005 is similar to fishing in 2004, then the DWG fishery would close in mid-June, 2005 (note the DWG quota was exceeded in 2004 due to implementation of Secretarial Amendment 1 after the quota was met), and the SWG fishery would close near the end of November. The SWG closure at the end of November would directly affect other fisheries if grouper fishermen target other species during December. During 2001-2003, the month of December accounted for 9.2 percent of the total annual grouper harvest. Losses in earnings associated with the quota closure could result in additional fishing effort on other species. The lower trip limits (5,500 lbs GW or 7,500 lbs GW) toward the middle to end of the fishing season could also affect some longline and fish trap vessels with high capacities, making it infeasible to conduct profitable trips. If this occurs, fishing effort could shift to other fisheries. However, as discussed above, additional fishing effort is not expected to have a significant adverse effect on other fisheries because of existing fishing restrictions.

**Alternative 3** is expected to affect a slightly larger number of trips compared to Alternative 2. That alternative proposes an initial trip limit of 7,500 lbs GW, followed by a reduced trip limit of 5,000 lbs GW. During 2001-2003, 472 trips (1.4 percent) landed greater than 7,500 pounds of grouper and 1,395 trips (4.3 percent) landed greater than 5,000 pounds of grouper (Waters 2005). Less than 6 percent (84 out of 1452) of all fish trap trips and less than 1 percent (78 out of 24,779) of all vertical line trips landed greater than 5,000 pounds of grouper during 2001-03 (Waters 2005). In contrast, greater than 23 percent (1222 out of 5213) of all longline trips landed greater than 5,000 pounds of grouper during this time period (Waters 2005). Consequently, longliners would be impacted the most by the lower trip limit and could shift effort from grouper to other fisheries, such as sharks, once the 7,500 pound trip limit is reduced to 5,000 pounds. However, this additional fishing effort is not expected to have a significant adverse effect on other fisheries because of existing regulations.

It is estimated that **Alternative 3** would extend the DWG fishery an additional 10 days, and prolong the SWG fishery until mid- to late-December. Extending the fishing season until mid-to late-December would reduce the potential of grouper fishermen targeting other species and eliminate regulatory discards.

Few interactions with marine mammals, sea turtles, and other protected species have been documented in the GOM commercial reef fish fishery (see Section 3.2.1.3). Commercial fishermen reported a total of 16 turtle interactions between July 1, 2001, and June 30, 2003 (Poffenberger 2004). No interactions with marine mammals or smalltooth sawfish have been reported. The GOM reef fish bottom longline/hook-and-line fisheries are classified as Category III fisheries, indicating the annual mortality and serious injury of a marine mammal stock resulting from each fishery is less than or equal to one percent of the maximum number of marine mammals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population [69 FR 70094].

### 4.3 Direct and Indirect Effects on the Economic Environment

Waters (2005) conducted simulation analysis to compare the effects of Alternatives 1, 2 and 3 on landings, fishing effort and net operating revenue.<sup>1</sup> The simulation analysis evaluated four scenarios. The first scenario depicted commercial fishing activity by vessels with recorded harvests of grouper species in 2001-2003 as reported in the NMFS logbook database (Note: 2004 data, where available, was also utilized in the overall analyses. However, data for 2004 are incomplete and 2001-2003 data were more extensively utilized). The second scenario took the 2004 fishing year quotas and simulated quota management for the 2001-2003 fishing years, incrementally by year, to identify how fishing performance might have differed had the current quotas been in effect in these years. The results from this scenario effectively constitute the status quo scenario (Alternative 1) for the current proposed rule since they represent the average expected outcome for the 2005-fishing season if no other management measures are imposed. The third scenario imposed the trip limits specified in Preferred Alternative 2 and Alternative 3 with no allowance for extra trips, i.e., only the trips reported in the respective databases occurred, with their performance truncated by the new trip limits. Participants could not take extra trips. The fourth scenario allowed extra trips to be taken in response to the trip limits but limited total days fishing to the sum of the original trips. For example, a 5-day trip that was truncated due to the trip limit could be split into two trips, one 3-day trip and one 2-day trip, but not two 3-day trips. Further, harvest on the second trip was limited to the “overage” truncated from the original trip. Whether the second trip actually occurred, however, was determined by whether revenues on the second trip were sufficient to cover trip costs. The following discussion summarizes the findings of the Waters (2005) assessment and further frequent reference will not be made.

The historical harvest records establish the foundation of the assessment as they define or are representative of the records upon which the analyst conducts their work. For historical, logbook-reported commercial landings of Gulf SWG and DWG, Waters (2005) estimated an annual average for 2001-2003 of 10.372 mp GW, the amount shown in Table 1. By gear type, bottom longlines averaged 5.616 mp GW and vertical lines (hand lines) averaged 3.788 mp GW. These averages are slightly different than the averages presented in Tables 3 and 5, respectively, and may vary slightly from assessments from other sources, due to differing data assumptions and tabulation routines.<sup>2</sup> The differences should not be sufficiently great, however, to compromise the analysis. Additionally, the trap fishery, which will be phased out in 2007, averaged 0.882 mp GW, while “other gear” averaged 0.086 mp GW.

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<sup>1</sup> The estimated closure dates may differ slightly from those reported by Poffenberger and McCarthy (draft, December 16, 2004). Waters (2005) notes that his user-written SAS program is used to sort logbook data by year, month, day landed and trip schedule number. Landings of groupers are accumulated through the year and the quota is recorded as filled on the date when accumulated landings first exceed the quota. The analysis by Poffenberger and McCarthy (draft, December 16, 2004) records the date before the quotas are exceeded because landings would exceed the quota if the season were open for 1 more day.

<sup>2</sup> As indicated in the footnote to Table 5, handlines include electric reels (E), hooks and lines (H) and trolling lines (TR). Waters’ data for vertical lines does not include landings for trolling lines (TR). He includes trolling lines under “other gear.”

The assessment estimated the net returns from fishing to simulate the economic impact of alternatives using trip costs based on 1993 survey data, updated to 2001-2003 price levels, and calculated for each logbook trip based on gear type and area using a regression model.<sup>3</sup> The net returns are estimated at the trip level and were obtained by subtracting the trip cost from the trip revenue, where the trip cost is defined to include fuel, ice, bait and food supplies. Labor costs are excluded. Thus, net returns for a trip refer to returns to all labor and capital. Summary results of the simulation assessment are presented in Tables 12-16. Tables 12-15 contain estimates of the changes in net returns (operating revenues) and vessel trips, by gear type (Tables 12 and 14) and area (Tables 13 and 15). Table 16 contains the simulated closure dates for the SWG and DWG fisheries for the 2000-2004 seasons under the alternative management scenarios.

### **Alternative 1 (status quo)**

Under **Alternative 1 (status quo)**, average fishery performance is expected to result in the harvest of an average of 9.292 mp GW of Gulf SWG and DWG combined. This compares to the average 10.372 mp GW historical logbook reported harvests for 2001-2003. The estimated change in net returns as a result of quota management is a reduction of \$2.046 million (Table 12) from historic harvests. It should be noted that this reduction in net returns is now the status quo fishery and not a reduction from 2004 conditions. Sixty-five percent of the reduction is borne by the bottom longline sector and 32 percent borne by the vertical line sector. By area, west-central Florida experiences the majority of the reduction, 58 percent, followed by 20 percent for northwest Florida (Table 13). Under quota management, 949 vessels are projected to harvest Gulf groupers, compared to 957 under historical harvest conditions with no quota. The largest reduction in vessels occurs in the vertical line fleet.

The earliest projected closure for the shallow-water grouper fishery is November 11, with no projected closure if conditions mirror those of 2003 (Table 16). It should be recalled that, while the simulation results project no closure in 2004, actual fishery performance resulted in the fishery being closed on November 15. For the DWG fishery, the projected closure ranges from

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<sup>3</sup> Trip costs were calculated for each logbook trip based on gear type, bottom longlines, fish traps, vertical lines in the northern Gulf [NMFS area 9 and greater], and vertical lines in the eastern Gulf, total landings per trip, days absent from port, and crew size. The basic cost data and the relation between trip costs and the characteristics of each trip were estimated with data from the 1993 survey of commercial reef fish boats. Average trip costs were updated to average 2001-2003 price levels according to the Bureau of Labor Statistics Producer Price Index (PPI) for #2 diesel fuel. Then, the updated costs were regressed on survey data for total pounds landed per trip, days absent from port, and crew size. The trip cost relationship was linear in each variable. Two other relationships (one with quadratic terms, and the other with logarithmic transformations) exhibited better statistical fits to the data, but the predictions of costs in relation to estimated revenues for individual logbook trips yielded some troublesome results that did not arise with the linear cost model. For example, the logarithmic model predicted trip costs that exceeded trip revenues for nearly 90% of the logbook trips. The quadratic model tended to predict very low trip costs for trips with exceptionally large landings, which is the subset of trips most likely to be affected by proposed trip limits and for which the most credible predictions are required. The linear cost model occasionally yielded trip costs less than zero, or trip costs that exceeded trip revenues, but these events occurred for trips with very small landings that would not be affected by proposed regulation. If predicted trip costs were less than zero, then costs were re-set as equal to zero. If predicted trip costs were greater than trip revenues, then costs were re-set as equal to revenues.

June 14 to November 29 (and actual closure in 2004 occurred on July 15). Thus, regardless of fishery conditions, the DWG fishery is expected to close.

These conditions would largely be expected to continue during the 2005 fishing year under status quo management with the exception that the 2004 closures are expected to additionally stimulate a derby fishery. This cannot be forecast with current data or models. However, the experience of the Gulf of Mexico commercial red snapper fishery may provide clear signals that a derby can develop rapidly and decisively. The first closure in the red snapper fishery occurred in August 1991. A full-scale race for fish ensued when the fishery re-opened in February 1992. The result was significantly shorter seasons, market gluts, and depressed market prices, demonstrating that such can occur almost immediately and without investment in additional fishing power such as bigger boats, newer fishing gear, and better electronics.

A derby and associated adverse economic impacts would, therefore, be an expected direct impact of the status quo. Additionally, a derby would be expected to accelerate the fishery closures. This would be expected to increase the potential of lost markets for commercial harvests, thereby increasing the indirect adverse economic impacts. During closures, markets, both retail and restaurant must continue to meet consumer demand either through the substitution of foreign product or different species. The more successful a retailer is in effecting this substitution, the lower the incentive to return to local purchases of grouper when the season reopens. This may result in either markets disappearing or remaining available only at reduced ex-vessel prices. While the consumer would continue to receive the product they desire (or have demonstrated they are willing to accept; the average consumer may be largely neutral to the situation, particularly if they demonstrate an acceptance of alternative product; also, reduced ex-vessel prices, as would result from market glut, do not necessarily translate directly to reduced consumer prices), the commercial fishery would suffer economic harm. This would be expected to reduce not only revenues, but also trips and the number of vessels able to operate.

In summary, the status quo (**Alternative 1**) would be expected to produce a derby, reducing the overall economic value of the fishery. Although this phenomena may be limited to the 2005 season, since projected quota increases for the 2006 season are expected to reduce, but not eliminate, the likelihood of quota closure, the unquantifiable losses for the 2005 season could be substantial.

## **Preferred Alternative 2**

As previously described, each trip limit alternative is modeled under two scenarios, one which does not allow vessels to take additional trips to recover harvests “truncated” by the trip limits, and one which allows additional trips to occur but limits the total days fished to historical conditions. Under the first scenario, simulated annual average landings (2001-2003) for **Preferred Alternative 2** were 9.263 mp GW, or slightly less than the 9.292 mp GW for the status quo (**Alternative 1**). This produced a loss in net revenue of \$2.255 million relative to historic fishery performance, or a \$209,000 loss relative to the status quo (\$2.255 MP -\$2.046 MP; Table 12). The longline sector is projected to produce 52 percent of the landings compared with 53 percent under simple quota management, and 73 percent of the loss in net revenue compared with 65 percent under quota management (Table 12, revenue reductions only). The

vertical line sector is projected to produce 38 percent of the landings compared with 37 percent under quota management, and 23 percent of the loss in net revenue compared with 32 percent under quota management. The vertical line sector is projected to experience a gain in net revenues (\$133,000) relative to the status quo. By area, 66 percent of the lost revenues are projected to occur in west central Florida, which experiences a 25-percent increase in net revenue loss (Table 13). Texas (10 percent), eastern Louisiana-Mississippi-Alabama (14 percent), and northwest Florida (20 percent) are projected to experience gains in net revenues relative to the status quo (**Alternative 1**). A total of 953 vessels are projected to participate in the fishery under this scenario, or 4 more vessels than the status quo (though the number of vessels under the status quo may reduce further due to derby conditions).

An examination of trip impacts for the first scenario shows that **Preferred Alternative 2** is projected to result in 10,551 vessel trips, or 2 percent more than the status quo (10,380 trips; Table 14; note that since vessels may not increase the number of trips they take in response to the limits, the additional trips result from extending the season relative to the status quo). The largest gear sector gain occurs in the vertical line fleet, 123 trips, though no sector gains more than 2 percent. By area, the majority of the gains occur in northwest Florida (75 trips) and west central Florida (64 trips).

Under the second scenario, as previously described, fishermen are allowed to take shorter and more frequent trips, but total days fished on these trips cannot exceed the reported days fished on the original logbook records. Under this scenario, simulated annual average landings (2001-2003) for **Preferred Alternative 2** were 9.239 mp GW. This produced a loss in net revenue of \$2.265 million, or a loss of \$219,000 relative to the status quo (\$2.265 MP -\$2.046 MP) and \$10,000 more than the first scenario. Both the vertical line sector (\$73,000) and the other gear sector (\$2,000) are projected to experience gains in net revenues under this scenario. By area, 63 percent of the lost revenues are projected to occur in west central Florida, which experiences a 20-percent increase in net revenue loss (Table 13). Both eastern Louisiana-Mississippi-Alabama (6 percent) and northwest Florida (8 percent) are projected to experience gains in net revenues relative to the status quo. A total of 946 vessels are projected to participate in the fishery under this scenario, or 3 fewer vessels than the status quo.

An examination of trip impacts for the second scenario shows that **Preferred Alternative 2** is projected to result in 10,498 vessel trips, or 1 percent more than the status quo (10,380 trips; Table 14). The largest gear sector gain occurs in the vertical line fleet, 77 trips, though the bottom longline sector is projected to receive a greater gain proportionally, or 2 percent. By area, the majority of the gains occur in northwest Florida (47 trips; Table 15) and west central Florida (60 trips).

To summarize the results presented thus far, **Preferred Alternative 2** is projected to result in 118-171 more trips than the status quo, \$209,000-\$219,000 less net revenue, and accommodate the participation of 3 fewer to 4 more vessels. All gear sectors gain trips, which are distributed unevenly across all areas except "other" (no change). Both the vertical line and other gear sectors are projected to gain revenues, while the other gear sectors, notably bottom longline, are projected to experience increased losses. Some areas are projected to gain net revenues, while west central Florida is projected to experience increased losses of 20-25 percent.

**Preferred Alternative 2** would also reduce the pace of harvest, thereby potentially reducing the magnitude of the derby effects, thus avoiding the adverse economic impacts expected to accrue to the status quo. Although these impacts cannot be quantified or forecast, and may be largely limited to the 2005 fishing year, they are expected to be substantial. Although unquantifiable, it is assumed that the benefits of mitigating the effects of a derby fishery exceed the reductions in net revenues described above.

While not strictly an economic indicator, under **Preferred Alternative 2** the SWG fishery is projected to close from November 24 (second scenario) to December 6 (first scenario), while the DWG fishery is projected to close from June 17 (either scenario) to December 18 (Table 6). Compared to the earliest closure dates under the status quo (**Alternative 1**), **Preferred Alternative 2** would be expected to extend the seasons for both fisheries relative to the status quo (**Alternative 1**). While lifestyle and/or seasonal plans may not require fishing late in the year, to the extent that late November into December trips are essential to a successful year, including supporting increased seasonal expenditures, extending the fishing year will have additional unquantifiable indirect benefits.

A direct effect, therefore, of **Preferred Alternative 2** would be the benefits of mitigating the effects of a derby fishery, or reducing its impacts, thereby negating the lost net revenues discussed above. Additionally, reducing the length of the closed seasons, which the trip limits are expected to accomplish, lessens the likelihood of lost markets, as discussed above. Thus, an indirect impact of this alternative is the benefits of improved market stability for commercial vessels.

### **Alternative 3**

Under the first scenario (no additional trips for individual vessels), simulated average annual landings (2001-2003) for **Alternative 3** were 9.172 mp GW, or slightly less than the 9.292 mp GW for the status quo (**Alternative 1**) and the 9.263 mp GW for **Preferred Alternative 2**. This produced a loss in net revenue of \$2.579 million relative to historical fishery performance, or a \$533,000 loss relative to the status quo (**Alternative 1**) and a \$324,000 loss relative to **Preferred Alternative 2** (Table 12). The longline sector is projected to produce 51 percent of the landings compared with 53 percent under simple quota management, and 80 percent of the loss in net revenue compared with 65 percent under quota management (Table 12, revenue reductions only). The vertical line sector is projected to produce 39 percent of the landings compared with 37 percent under quota management, and 15 percent of the loss in net revenue compared with 32 percent under quota management. The vertical line sector is projected to experience a gain in net revenues (\$250,000) relative to the status quo (**Alternative 1**) and **Preferred Alternative 2** (\$117,000). By area, 71 percent of the lost revenues are projected to occur in west central Florida, which experiences a 54 percent increase in net revenue loss (Table 13). Texas (9 percent), eastern Louisiana-Mississippi-Alabama (28 percent), and northwest Florida (28 percent) are projected to experience gains in net revenues relative to the status quo. The gain in Texas is slightly more than under **Preferred Alternative 2**, while the gains in the other areas are less than that of **Preferred Alternative 2**. A total of 949 vessels are projected to participate in the fishery under this scenario, the same as the status quo (**Alternative 1**) (though derby

conditions may reduce the number of operating vessels), or 4 fewer than **Preferred Alternative 2**.

An examination of trip impacts for the first scenario shows that **Alternative 3** is projected to result in 10,697 vessel trips, or 3 percent more than the status quo, and 146 more trips than **Alternative 2** (Table 14; as described above, the additional trips result from extending the season). The largest gear sector gain occurs in the vertical line fleet, 227 trips, though the bottom longline sector experiences the largest proportionate increase (5 percent)). By area, the majority of the gains occur in northwest Florida (136 trips) and west central Florida (153 trips). These are about double the gains in these areas under **Preferred Alternative 2**.

Under the second scenario, simulated annual average landings (2001-2003) for **Alternative 3** were 9.192 mp GW. This produced a loss in net revenue of \$2.468 million relative to historic fishery performance, or a loss of \$422,000 relative to the status quo (**Alternative 1**), a \$111,000 gain relative to the first scenario, and a \$203,000 loss relative to **Preferred Alternative 2**. Both the vertical line sector (\$191,000) and the other gear sector (\$5,000) are projected to experience gains in net revenues under this scenario, relative to the status quo. Compared to **Preferred Alternative 2**, the gear sector gains increase by \$118,000 and \$3,000, respectively. By area, 68 percent of the lost revenues are projected to occur in west central Florida, which experiences a 40 percent increase in net revenue loss (Table 13). This is double the loss under **Preferred Alternative 2**. Texas (8 percent), eastern Louisiana-Mississippi-Alabama (17 percent) and northwest Florida (22 percent) are projected to experience gains in net revenues relative to the status quo (**Alternative 1**), all increases over **Preferred Alternative 2**. A total of 942 vessels are projected to participate in the fishery under this scenario, or 7 fewer vessels than the status quo (**Alternative 1**) and 4 fewer than **Preferred Alternative 2**.

An examination of trip impacts for the second scenario, shows that **Alternative 3** is projected to result in 10,637 vessel trips, or 2 percent more than the status quo (**Alternative 1**) and 139 more trips than **Preferred Alternative 2** (Table 14). The largest gear sector gain occurs in the vertical line fleet, 168 trips, though the bottom longline sector is projected to receive a greater gain proportionally, or 5 percent. By area, the majority of the gains occur in northwest Florida (104 trips; Table 15) and west central Florida (132 trips).

To summarize the results presented thus far, **Alternative 3** is projected to result in 256-317 more trips than the status quo (**Alternative 1**), \$422,000-\$533,000 less net revenue, and accommodate the participation of up to 7 fewer vessels. All gear sectors gain trips, which are distributed unevenly across all areas except "other" (no change). Both the vertical line and other gear sectors have the potential to gain revenues, while the other gear sectors, notably bottom longline, are projected to experience increased losses. Some areas are projected to gain revenues, while west central Florida is projected to experience increased losses of 40-54 percent.

Relative to **Preferred Alternative 2**, **Alternative 3** is projected to result in increased reductions in net revenue of \$203,000-\$324,000, accommodate 4 fewer vessels, and produce 139-146 more trips. The vertical line sector is expected to gain \$117,000-\$118,000 in net revenues. Losses for the bottom longline sector, however, increase by \$308,000-\$409,000.

Similar to **Preferred Alternative 2**, this alternative would reduce the derby effects expected to occur under the status quo (**Alternative 1**). Since the trip limits are lower, **Alternative 3** could be more effective in reducing the effects of derby fishing. However, the limits may be more restrictive than is necessary, thereby resulting in a greater net loss to the fishery.

Under **Alternative 3**, the SWG fishery is projected to close from December 2 (second scenario) to December 16 (first scenario), while the DWG fishery is projected to close either not at all (if 2002 fishing conditions prevail) or from June 18 (second scenario) to December 1 (Table 16). Compared to the earliest dates of the status quo (**Alternative 1**), November 11 and June 14 for the two fisheries, respectively, **Alternative 3** would be expected to extend the seasons for both fisheries relative to the status quo. These dates represent a week or more of gains relative to **Alternative 2** and would be expected to produce greater unquantifiable indirect benefits associated with extending the fishing year.

Similar to **Preferred Alternative 2**, a direct effect of **Alternative 3** would be the benefits of mitigating the effects of a derby fishery, or reducing its impacts, thereby negating the lost net revenues discussed above. Additionally, reducing the length of a closed season, which the trip limits are expected to accomplish, lessens the likelihood of lost markets, as discussed above. Thus, an indirect impact of this alternative is the benefits of improved market stability for the commercial vessels. The limits prescribed by this alternative, however, may be unnecessarily severe to achieve mitigation of the effects of a derby fishery.

#### **4.4 Direct and Indirect Effects on the Social Environment**

##### **Alternative 1 (Status Quo)**

The derby fishery that is expected to develop under the status quo (**Alternative 1**) for the fishery is expected to induce significantly shorter seasons, market gluts, and depressed market prices. This would be expected to increase the potential of lost markets for commercial harvests and reduced revenues. During closures, markets, both retail and restaurant must continue to meet consumer demand either through the substitution of foreign product or different domestic species. The more successful a retailer is in effecting this substitution, the lower the incentive to return to local purchases of grouper when the season reopens. This may result in either markets disappearing or remaining available only at reduced ex-vessel prices. While the consumer would continue to receive the product they desire (or have demonstrated they are willing to accept; the average consumer may be largely neutral to the situation, particularly if they demonstrate an acceptance of alternative product; also, reduced ex-vessel prices, as would result from market glut, do not necessarily translate directly to reduced consumer prices), the commercial fishery would suffer economic harm, with resultant adverse social impacts on the areas identified above. The economic losses experienced by the fishery participants would be expected to have spillover effects on associated direct industries, such as gear and supply shops, as well as other businesses that the participants utilize, such as grocers, clothiers, entertainment facilities, etc. Increased economic hardship would be expected to have additional impacts on family and social structures.

The ability to adapt to the diminished economic environment created by the derby is influenced by the diversity of the fishing operation and availability of alternative targets. Fisheries are

heavily regulated and the flexibility to shift from one to another is increasingly limited. Further, often the communities in which the fishermen are based lack sufficient diversity or the skills of the fishermen limit the opportunities to acquire substitute employment. This increases the severity of the adverse social impacts that would be expected to ensue as a result of the derby.

## **Preferred Alternative 2**

This alternative is expected to reduce the intensity or severity of the derby that is expected to develop under the status quo (**Alternative 1**), thus reducing the adverse social impacts described above. Further, the proposed trip limits are expected to lengthen the open seasons, thereby reducing the likelihood of lost market outlets for commercial harvests and the resultant adverse impacts.

Although the trip limits alter the economic profitability of individual trips, resulting in fishery-wide reductions in net revenue, and potentially result in the participation of fewer vessels, these effects are assumed less than the benefits associated with mitigating the effects of the derby. These benefits would include, but not be limited to more steady employment patterns, income and expenditure flow, lifestyle patterns, community interactions, etc. Thus, although there may be some variance in individual vessel performance resulting in localized adverse impacts, overall this alternative is expected to produce net economic benefits, with subsequent benefits to the participants, families, fishing communities, and associated industries.

It should be noted, however, as described in the discussion of economic impacts, that the effects are not distributed evenly across all areas or gear sectors. An effect of the trip limits is to re-allocate harvests among the areas and gear sectors, with the vertical line and other gear sectors projected to gain revenues, while the other gear sectors, notably bottom longline, are projected to experience increased losses. With respect to area fished or landed, some areas are projected to gain net revenues, while west central Florida is projected to experience increased losses of 20-25 percent. Thus, despite the expectation that losses will be countered by the benefits associated with mitigating the effects of a derby, not every participant and every area is necessarily expected to escape all adverse economic or social effects.

A direct effect, therefore, of **Preferred Alternative 2** would be the social benefits of mitigating the effects of a derby fishery, or reducing its impacts, thereby negating the lost net revenues discussed above and the ripple effects through businesses, associated industries, families, and other social institutions in the respective communities.

## **Alternative 3**

The social effects of this alternative are similar to those described for **Preferred Alternative 2**. The only difference is that the trip limits specified by this alternative are more restrictive than those of **Preferred Alternative 2**, thereby resulting in more trips but greater reductions in net revenue. Although again, as with **Preferred Alternative 2**, this alternative would be expected to result in mitigation of the effects of derby conditions and accompanying adverse social impacts, thereby countering or negating the reductions in net revenues, the restrictions may be more severe than necessary, and increase the distributional impacts of the limits. Thus, while overall

the fishery, participants, and associated communities would be expected to benefit, there may be more widespread or severe instances of localized adverse impacts.

#### **4.5 Direct and Indirect Effects on the Administrative Environment**

**Alternative 1 (no action)** would maintain status quo regulations, which allow commercial fishermen to harvest an unlimited quantity of grouper per trip, but cap the total allowable catch of red grouper, SWG, and DWG at 5.31 mp GW, 8.8 mp GW, and 1.02 mp GW, respectively. Monitoring total allowable catch quotas, and noticing and enforcing fishery closures directly burdens the administrative environment. However, such administrative activity falls within the scope of routine fishery management actions.

**Preferred Alternative 2** and **Alternative 3** would institute a temporary trip limit in the grouper fishery via an emergency rule. This emergency action would be effective for a maximum of 360 days (180 days + one additional 180-day extension) and represents an administrative burden that is part of the normal administrative activities of NOAA Fisheries Service. An amendment to the Reef Fish FMP would be required to institute a permanent trip limit. The Council has already suggested incorporating options for grouper trip limits in a regulatory amendment for setting grouper TAC in 2006.

The trip limits proposed in **Preferred Alternative 2** and **Alternative 3** would not relieve NOAA Fisheries Service of its responsibility to monitor quotas and inform law enforcement and fishermen when quotas are met and fisheries are closed. SEFSC staff would continue to monitor quotas established by Secretarial Amendment 1 (NOAA Fisheries Service 2004a). These alternatives are expected to directly increase the burden on the quota monitoring program and law enforcement. As discussed by Poffenberger and McCarthy (2004), predicting the dates when a quota, or a certain percentage of a quota, will be reached is not as accurate as determining the dates after the fact. The length of the fishing season thus depends on how accurate trigger dates are predicted. **Preferred Alternative 2** represents the greatest administrative burden for the SEFSC's quota monitoring program because two trigger dates would have to be predicted, in addition to the end of the season quota closure. **Alternative 3** includes only one trigger date.

However, **Preferred Alternative 2** and **Alternative 3** could also enable more accurate quota monitoring and minimize the likelihood of quotas being exceeded. Lower trip limits at the end of the fishing season would slow the rate of harvest and allow the SEFSC's quota monitoring program to more accurately predict when the SWG fishery will close.

To be effective, regular contact by enforcement with fishermen is needed to prevent landings from exceeding the trip limits. Consequently, trip limits require on-the-water or dockside enforcement to determine compliance. The higher the trip limit the greater the time needed to determine compliance. **Preferred Alternative 2** would result in the greatest administrative burden for enforcement because it proposes the highest trip limit. Additionally, three trip limits would be established by **Preferred Alternative 2**, so enforcement would have to be regularly informed when trip limits change. Similar to **Preferred Alternative 2**, **Alternative 3** would

increase enforcement time to determine compliance with regulations and enforcement would have to be informed when changes to the trip limit occur.

#### **4.6 Mitigation Measures**

The proposed action will adversely affect net revenues of some grouper fishermen in the GOM (see Section 4.3). These adverse effects are expected to negate the unquantifiable effects of a derby fishery, which would occur under the status quo (Alternative 1) and result in lost markets and market gluts. Therefore, no mitigation measures are proposed for any of these alternatives.

#### **4.7 Cumulative Effects**

Section 1508.7 defines cumulative impacts as impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. The proposed action stems from the regulatory actions implemented by Secretarial Amendment 1 (NOAA Fisheries Service 2004a), which implemented a rebuilding plan and quota for red grouper and reduced the quotas for SWG and DWG. The total allowable catch for SWG was reduced by 0.55 mp (5.9 percent) and for DWG by 0.31 mp (23.0 percent). Red grouper harvest was reduced by 9.4 percent in order to end overfishing.

This action would continue to cap the total allowable catch of red grouper, SWG, and DWG. Because this action maintains the grouper quotas implemented by Secretarial Amendment 1, the cumulative benefits of rebuilding red grouper and capping harvest levels are expected to be positive.

The actions implemented by Secretarial Amendment 1 (NOAA Fisheries Service 2004a) did have negative economic effects on the fishery, resulting from reductions in landings. Both the vertical line and other gear sectors are projected to gain revenues relative to the status quo, while the other gear sectors, notably bottom longline, are projected to experience increased losses. This action will also increase losses in net revenue for large capacity vessels that are affected by the proposed trip limits. However, cumulative social and economic effects are expected to be beneficial because the proposed action would mitigate the effects of a derby. Additionally, the Council is developing a regulatory amendment to the Reef Fish FMP, scheduled for completion in 2006, incorporating options for permanent grouper trip limits and setting grouper total allowable catch (TAC). This action by the Council should indefinitely establish the same economic benefits associated with this action.

#### **4.8 Unavoidable Adverse Effects**

All alternatives have negligible effects on the physical and biological environments. Unavoidable adverse effects on the administrative environment are the result of additional quota monitoring and enforcement (see Section 4.5) and are part of the normal activities of NOAA Fisheries Service. Adverse economic and social effects will result from this proposed action, producing net losses in revenue for some fishery sectors and geographic areas. However, these unavoidable adverse effects are expected to outweigh the unavoidable direct and indirect effects associated with a derby fishery (e.g., market gluts, decreases in price, lost markets, etc).

#### **4.9 Relationship Between Short-Term Uses and Long-Term Productivity**

The relationship between short-term uses and long-term productivity will not be affected by this action. The purpose of this emergency action is to prolong the fishing year and reduce the adverse socio-economic effects of derby fishing. This action does not change the harvest levels (quotas) or red grouper rebuilding plan established in Secretarial Amendment 1, which are expected to benefit the long-term productivity of DWG and SWG. The long-term productivity of other fisheries is not likely to be affected by this action because most other fish harvested by grouper fishermen are regulated and have quotas and limited entry programs to control harvest and cap effort (see Section 4.2).

#### **4.10 Irreversible and Irretrievable Commitments of Resources**

Irreversible commitments are defined as commitments that cannot be reversed, except perhaps in the extreme long term, whereas irretrievable commitments are lost for a period of time. This is a temporary action that will last for a period 180 days, unless extended by an additional 180 days. Because of the short duration of this action, there are no irreversible commitments for this action. This action will result in irretrievable net revenue losses for some sectors of the fishery, but these net losses are expected to negate the unquantifiable benefits of mitigating the effects of a derby fishery.

#### **4.11 Any Other Disclosures**

No additional disclosures are needed or known for this action.

### **5.0 ECONOMIC ANALYSIS**

#### **5.1 Introduction and Background**

Due to the nature of the action and the acute time frame in which it must be promulgated, the following analysis will not cover the full breadth and depth of the requirements of a Regulatory Impact Review, Social Impact Assessment, or a Regulatory Flexibility Act Analysis. However, the analysis will address the primary assessment requirements of each.

The proposed action and alternatives are:

**ALTERNATIVE 1: Status Quo – Do not establish an aggregate trip limit for deep-water and shallow-water groupers.**

**Preferred=> ALTERNATIVE 2: Establish an aggregate deep-water grouper and shallow-water grouper trip (possession) limit. At the beginning of the fishing year (January 1) all vessels will be limited to a 10,000-pound gutted weight trip limit for both deep-water and shallow-water grouper combined; if on or before August 1, the fishery is estimated to have caught more than 50 percent of either the shallow-water grouper**

or the red grouper quota, then a 7,500-pound gutted weight trip limit would take effect for all groupers; if on or before October 1, the fishery is estimated to have caught more than 75 percent of either the shallow-water grouper or red grouper quota, then a 5,500-pound gutted weight trip limit would take effect for all groupers until the end of the fishing year or when the quota for either shallow-water grouper or red grouper is met, whichever comes first.

**ALTERNATIVE 3**: Establish an aggregate deep-water grouper and shallow-water grouper trip (possession) limit. At the beginning of the fishing year (January 1) all vessels will be limited to a 7,500-pound gutted weight trip limit for both deep-water and shallow-water grouper combined; when 50 percent of either the shallow-water grouper or red grouper quota is caught, then a 5,000-pound gutted weight trip limit would take effect for all groupers until the end of the fishing year or when the quota for either shallow-water grouper or red grouper is met, whichever comes first.

Under two of the three alternatives of the proposed rule, aggregate trip limits for Gulf SWG and DWG species would be reduced in stages starting in 2005. The Council's letter requesting the trip limits states (GMFMC 2004f):

In the absence of action, we expect the harvest rate in the fishery to accelerate in 2005 due to this year's quota closure and improvements to the stock under the red grouper rebuilding plan. The proposed initial trip limit is intended to prevent a runaway derby fishery early in the year while still allowing all vessels, including high capacity vessels, an opportunity to participate in the fishery. The subsequent reductions in the trip limit when 50% and 75% of the quota is reached will slow down the harvest late in the year when the impending closure will be accelerating the race.

The Council's letter suggests that trip limits would result in extending the length of the fishing season, based on an analysis by the Council staff (using work by Poffenberger and McCarthy, 2004a). Poffenberger and McCarthy (2004b) provided further analysis. Waters (2005) conducted simulation analysis using four scenarios each for **Preferred Alternative 2 and Alternative 3** to identify their effect on landings, fishing effort and net operating revenue. The results of this analysis are presented in Section 5.8.1.

Secretarial Amendment 1 implemented quota-based annual fishery closures, but not trip limits, to reduce fishing mortality. Although not implemented by Secretarial Amendment 1, the differential economic impacts of trip limits were recognized, along with the possible economic impact of longer closed seasons (NOAA Fisheries Service 2004a):

Additional alternatives to reduce fishing mortality include commercial shallow-water grouper closed season, commercial grouper trip limits, recreational grouper closed seasons, and recreational grouper bag limits. For the commercial sector, a longer closed season would, in addition to the general short-term reductions in revenues and profits, likely invite more imports. This situation can stabilize prices to the consumers but may result in domestic producers losing some markets. Uniform trip limits would have differential impacts among the longline, vertical line, and fish trap segments of the

fishery and between small and large vessels, with lower trip limits affecting the longliners more than others and large vessels more than small ones.

The Council request for the proposed rule introduces some issues about economic behavior of seafood markets and the commercial fishery for Gulf shallow-water and deep-water grouper. However, commercial fishermen who depend on Gulf reef fish and other fishery stakeholders recognize that regulation of the commercial fishery for Gulf red snapper brought with it very short seasons and what has been called a “derby fishery.”<sup>4</sup> Although similar, it cannot be empirically demonstrated at this time that a derby fishery would develop for grouper. However, the potential for similar development is clearly recognized.

Under **Alternative 2**, the proposed action, the initial trip limit would be 10,000 pounds (gutted weight) for shallow-water and deep-water grouper combined. The trip limit would be reduced to 7,500 pounds if landings reach 50 percent of the quota for either shallow-water grouper or red grouper on or before August 1. A reduction in the trip limit to 5,500 pounds would occur if landings reach 75 percent of the quota for either shallow-water grouper or red grouper on or before October 1. Under **Alternative 3**, the proscribed trip limits would be 7,500 pounds (gutted weight) initially, with a reduction to 5,000 pounds if landings reach 50 percent of the quota for either shallow-water grouper or red grouper.

Finally, under any of the three alternatives, the trip limit would be reduced to zero when either the red grouper or SWG quota is reached. Per trip landings in the range of 5,000 to 10,000 pounds for the Gulf SWG and DWG fishery are quite large when compared with either the landings for most trips or the annual landings for many vessels in the fishery. Longline vessels tend to have larger trips than hand line vessels.

Trip limits would add to an already complex set of regulations for the Gulf reef fish fishery, as summarized in Secretarial Amendment 1 (NOAA Fisheries Service 2004a). These regulations affect the economic behavior of the commercial vessels that prosecute these fisheries. The regulations include specifications on allowable gear, seasonal and area closures, quota-based closures, trip limits (for other reef fish species) and size limits. Under a permit moratorium implemented in 1992, there has been a gradual decline in the number of vessels fishing for Gulf reef fish and an increase in median landings per vessel (Tables 7-9).

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<sup>4</sup> In the early 1990s, another FMP regulation resulted in intermittent supplies to seafood distributors from the Gulf commercial fishery for red snapper. Fishing days were reduced from 365 in 1990 to 95 by 1992, but annual landings continued to grow through 1999, meaning that landings began to occur under conditions of a derby fishery. Real ex-vessel prices of Gulf and South Atlantic red snapper were affected by imports as well; prices are now lower in both regions than in the late 1980s, more so for the South Atlantic. Red snapper no longer commands the price premium over yellowedge, black and gag grouper and scamp that it once did; it is now a bit lower in the Gulf. In 1990, red snapper had the highest real ex-vessel price in the Gulf among ten reef fish species, \$2.89 a pound, but the \$1.84 in 1997 put red snapper close to vermilion snapper (real prices expressed in 2001 dollars). At \$2.29 in 2003, red snapper was close in price to yellowedge, black and gag grouper and scamp, likely because of redistribution of allowed fishing days among months. The 94 fishing days for red snapper in 2003 were distributed among 10 months, while the 52 to 95 allowed fishing days for 1992 through 1995 were distributed mostly among 3 or 4 months.

Apart from what is reported to have been an unintended fishery closure ten years ago, annual, quota-based fishery closures for Gulf grouper began only in 2004. The DWG fishery closed on July 15, 2004, and the SWG fishery closed on November 15, 2004. Quota closures for SWG occur when NOAA Fisheries Service announces that estimated landings have reached 8.8 mp GW for SWG or 5.31 mp GW for red grouper (part of the shallow-water grouper complex, Table 10), whichever occurs first (NOAA Fisheries Service 2004a). The DWG closure occurs when harvests reach 1.02 mp GW. The Gulf grouper fisheries opened for the year on January 1, 2005, with a scheduled February 15 through March 15 spawning closure and, subsequent to reopening, separate quota-based closures are expected to recur for DWG and SWG, based on 2004 performance.

## **5.2 Description of the Reasons Why Action by the Agency is Being Considered**

The purpose and need for the action is contained in Section 1.2 and is incorporated herein by reference. In summary, this action is intended to reduce the potential for the development of a derby fishery in the Gulf of Mexico grouper fishery, extend the fishing season, and reduce the adverse social and economic impacts that a derby fishery and shortened season would generate.

## **5.3 Statement of the Objectives of and Legal Basis for the Proposed Rule**

The objective of this action is to moderate the rate of harvest of the available quotas and, thereby, extend the season and reduce the adverse socio-economic effects of derby fishing in the Gulf of Mexico DWG and SWG fisheries. The MSFCMA, as amended, provides the legal basis for the rule.

## **5.4 Description of the Fishery**

The description of the fishery, and the communities it supports, is contained in Section 3.3 and Section 3.4 and is incorporated herein by reference.

## **5.5 Description of the Projected Reporting, Record-keeping and Other Compliance Requirements of the ER, including an Estimate of the Classes of Small Entities Which Will be Subject to the Requirement and the Type of Professional Skills Necessary for the Preparation of the Report or Records**

The ER will impose no new reporting requirements. Participants in the Gulf reef fish fishery currently are required to have a valid commercial permit and record their fishing activity in a logbook. The ER will not alter these requirements. All information elements required for both permit application/renewal and the logbook program are standard elements essential to the successful operation of the business and should already be collected and maintained as standard operating practice by the business. These requirements do not require professional skills, and, therefore, may be deemed not to be onerous on the affected participants.

## **5.6 Identification of All Relevant Federal Rules Which May Duplicate, Overlap or Conflict With the ER**

No duplicative federal rules have been identified.

### **5.7 Substantial Number of Small Entities**

The Small Business Administration defines a small business in the commercial fishery sector as a firm that is independently owned and operated, is not dominant in its field of operation, and has annual receipts up to \$3.0 million per year. The appropriate receipts threshold for a for-hire operation is \$6.0 million. For the support industries, the appropriate thresholds are a firm with fewer than 500 employees in the case of fish processors, or fewer than 100 employees in the case of fish dealers.

Consistent with the sector profiles provided in Section 3.3, all commercial fishing, for-hire and dealer/processor entities that participate in the fishery are assumed to be small businesses. An average of 957 vessels per year were recorded as reporting grouper landings in the Gulf of Mexico from 2001-2004. The median annual gross revenue from all logbook reported commercial fishing harvests for all vessels reporting for 2001-2004 ranged from \$18,000 to \$21,000, while the maximum gross revenue ranged from \$475,000 to \$575,000. For the longline fleet (165 vessels per year, on average), the median annual gross revenue ranged from \$96,000 to \$102,000. The hand line fleet (800 vessels per, on average) had a median annual gross revenue of under \$17,000. Some vessels in the for-hire fleet (estimated at less than 2,000 vessels in total) also participate in the commercial grouper fishery and while their commercial harvest activity would be included in the commercial fishery assessment, their for-hire revenues would not. While operation as a for-hire vessel should not be directly impacted by the proposed commercial trip limits, overall business operation may be a function of profitability in both sectors. It may, therefore, be relevant to consider their for-hire operations as well. An average charter vessel is estimated to generate \$76,960 in annual revenues and \$36,758 in annual profits. The comparable figures for an average headboat are \$404,172 in annual revenues and \$338,209 in profits.

Between 1997-2000, there were on average 123 reef fish dealers actively buying and selling in the grouper market. Of these, 101, or 82 percent, sold more than \$30,000 per year worth of domestic grouper on a regular basis. These dealers may hold multiple types of permits. Since the extent of business operation for these dealers is unknown, it is not possible to determine what percentage of their business comes from grouper fishing activity. Average employment information per reef fish dealer is not known, but total employment in 1997 for reef fish processors in the Southeast was estimated at approximately 700 individuals, both part and full time. It is assumed that all processors must be dealers, yet a dealer need not be a processor. Therefore, dealer employment is expected to be less than 700 individuals.

Given the profiles presented, it is determined that all commercial fishing entities and dealers that will be affected by the proposed action are small business entities. Since all said entities would be potentially affected, it is determined that the proposed action will affect a substantial number of small entities.

### **5.8 Economic Impacts**

Detailed discussion of the expected economic impacts of the proposed rule are contained in Section 4.3 and are incorporated herein by reference. A summary of the expected impacts follows.

### **Alternative 1 (Status Quo)**

The SWG fishery is projected to close as early as November 11 and the DWG fishery is projected to close as early as June 14 under status quo conditions. Additionally, the 2004 closures are expected to stimulate a derby fishery. While this cannot be forecast with current data or modeling techniques, the experience of the GOM commercial red snapper fishery may provide clear signals that a derby can develop rapidly and decisively. The first closure in the red snapper fishery occurred in August 1991. A full-scale race for fish ensued when the fishery reopened in February 1992. The result was significantly shorter seasons, market gluts, and depressed market prices, demonstrating that such can occur almost immediately.

Although total harvest would not be expected to exceed the quotas, a derby would reduce the overall economic value of the fishery. Although the phenomena may be limited to the 2005 season, since projected quota increases for the 2006 season are expected to reduce the likelihood of quota closure, the unquantifiable losses for the 2005 season could be substantial.

### **Alternative 2 (Proposed Action)**

Alternative 2 is projected to result in 118-171 more trips than the status quo, \$209,000-\$219,000 less net revenue, and accommodate the participation of 3 fewer to 4 more vessels. All gear sectors gain trips, which are distributed unevenly across all areas except "other" (no change). Both the vertical line and other gear sectors have the potential to gain revenues, while the other gear sectors, notably bottom longline, are projected to experience increased losses. Some areas are projected to gain revenues, while west central Florida is projected to experience increased losses of 20-25 percent.

This alternative would also reduce the derby effects, thereby potentially avoiding the adverse economic impacts expected to accrue to the status quo. It is assumed that the benefits of mitigating the effects of a derby fishery, although unquantifiable, exceed the reductions in net revenues described above.

Under Alternative 2, the SWG is projected to close from November 24 to December 6, while the DWG fishery is projected to close from June 17 to December 18. Compared to the earliest closure dates under the status quo, November 11 and June 14 for the two fisheries, respectively, Alternative 2 would be expected to extend the seasons for both fisheries relative to the status quo. Extending the fishing year will have additional unquantifiable indirect benefits.

### **Alternative 3**

Alternative 3 is projected to result in 256-317 more trips than the status quo, \$422,000-\$533,000 less net revenue, and accommodate the participation of up to 7 fewer vessels. All gear sectors gain trips, which are distributed unevenly across all areas except "other" (no change). Both the vertical line and other gear sectors have the potential to gain revenues, while the other gear

sectors, notably bottom longline, are projected to experience increased losses. Some areas are projected to gain revenues, while west central Florida is projected to experience increased losses of 40-54 percent.

Relative to Alternative 2, Alternative 3 is projected to result in increased reductions in net revenue of \$203,000-\$324,000, accommodate 4 fewer vessels, and produce 139-146 more trips. The vertical line sector is expected to gain \$117,000-\$118,000 in net revenues. Losses for the bottom longline sector, however, increase by \$308,000-\$409,000.

Similar to Alternative 2, this alternative would reduce the derby effects. Since the trip limits are lower, Alternative 3 could be more effective in reducing these effects. However, the limits may be more restrictive than is necessary, thereby resulting in a net loss to the fishery.

Under Alternative 3, the SWG fishery is projected to close from December 2 to December 16, while the DWG fishery is projected to close either not at all (if 2002 fishing conditions prevail) or from June 18 to December 1. Compared to the earliest closure dates under the status quo, November 11 and June 14 for the two fisheries, respectively, Alternative 3 would be expected to extend the seasons for both fisheries relative to the status quo. These dates represent a week or more of gains relative to Alternative 2 and would be expected to produce greater unquantifiable indirect benefits associated with extending the fishing year.

## **5.9 Significant Economic Impact Criterion**

The outcome of a significant economic impact can be ascertained by examining two issues: disproportionality and profitability.

Disproportionality: Do the regulations place a substantial number of small entities at a significant competitive disadvantage to large entities?

All the operations potentially affected by the final rule are considered small entities so that the issue of disproportionality does not arise in the present case.

Profitability: Do the regulations significantly reduce profit for a substantial number of small entities?

The primary impacts of the proposed rule occur on the bottom longline (net revenue loss) and vertical gear (net revenue gain) sectors. The total projected net revenue loss for all bottom longline vessels (163) ranges from \$285,000-\$319,000, or less than \$2,000 per vessel. Assuming net income ranges from \$15,000-\$25,500 per bottom longline vessel (Waters 1996; also, the application of a 20 percent net to gross ratio, as derived from Waters, to the average median gross revenue for bottom longline entities from 2001-2004 of approximately \$95,000 (Table 3) generates a net return of \$19,000, which is within the utilized range), this reduction per vessel could equate to an 8-13 percent reduction in net revenues. It should be noted that these losses would be mitigated by the unquantifiable gains associated with mitigating the effects of a derby fishery.

The vertical gear sector (approximately 777 vessels) is projected to gain \$73,000-\$133,000 in net revenues, or approximately \$100-\$170 per vessel. Assuming net income ranges from \$4,000-\$28,500 per vertical line vessel (Waters 1996; also, the application of a 20 percent net to gross ratio, as derived from Waters, to the average median gross revenue for bottom longline entities from 2001-2004 of approximately \$15,500 (Table 5) generates a net return of \$4,000), this increase per vessel could equate to as much as a 4 percent increase in net revenues. It should be noted that this increase would be in addition to the unquantifiable gains associated with the avoidance of the losses associated with a derby fishery.

### **5.10 Public and Private Costs**

NMFS administrative costs of document preparation, review and publication are estimated at \$50,000. Although the imposition of trip limits imposes another level of complexity on the enforcement burden, enforcement budgets are not allocated by fishery. All enforcement of the measures contained in this proposed rule will be conducted as part of routine and customary enforcement procedures and no new budgets will be allocated to accomplish this. Thus, no enforcement costs specifically attributable to this action have been identified.

### **5.11 Summary**

The proposed rule is expected to reduce net revenues to fishery participants by \$209,000 to \$219,000. However, the proposed rule is also expected to generate unquantifiable gains associated with the avoidance of the losses associated with a derby fishery. Although not quantifiable, these gains are expected to exceed the estimated reductions described. Regardless, proposed rule will clearly not meet the \$100 million threshold. Nor are there expected to be any significant adverse effects on prices, employment or competition. The proposed rule is, therefore, determined not to be significant under E.O. 12866.

## **6.0 FINDING OF NO SIGNIFICANT IMPACTS**

The Council on Environmental Quality regulations implementing the National Environmental Policy Act and NOAA's Administrative Order (NAO) 216-6 require that decision makers take into account both context and intensity when evaluating the significance of impacts resulting from a major Federal action (40 CFR 1508.27; NAO 216-6, Section 6.01(b)). Evaluating significance with respect to context requires consideration of the local, regional, national, and/or global impacts of the action. Intensity refers to the severity of the impact, and is to be evaluated using specific criteria outlined at 40 CFR 1508.27(b) and at NAO 216-6, Section 6.01(b). The key findings related to the significance of the impacts associated with the proposed actions follow. The findings are organized under the intensity criteria and include a consideration of the context in which the impacts occur.

*(1)Impacts may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial (40 CFR §1508.27(b)(1); NAO 216-6, Section 6.01(b)(1)).* The benefits and impacts of the proposed action are described in detail in Section 4.0. The impacts to the physical environment are expected to be negligible, because the action does not drastically change the gears or methods used to harvest grouper.

The proposed action could alter the magnitude and/or composition of bycatch in the fishery, or promote effort shifting to other non-grouper fish species after trip limits have been achieved. A shift in effort resulting from the proposed trip limits would not affect most other reef fish species because 70 percent of the total annual reef fish harvest is governed by hard quotas that prohibit harvest when quotas are met. Several other reef fish and non-reef species commonly caught by grouper fishermen are also governed by commercial quotas and have limited entry programs and/or rebuilding programs that restrict harvest and participation in the fishery, thereby reducing or negating biological and ecological effects. Trip limits could directly affect the biological and ecological environment by altering the magnitude and/or composition of bycatch in the fishery, or by promoting effort shifting to other non-grouper fish species after trip limits have been achieved.

If fishermen continue fishing for reef fish found in the same habitat as grouper after reaching their trip limit, there could be an increase in grouper release mortality from regulatory discards. However, if fishermen stop fishing once reaching their trip limit for grouper, then regulatory discards and fishing mortality on other species could be reduced. Additionally, regulatory discards and fishing effort directed toward other species could increase or decrease depending on whether commercial grouper fishermen continue to fish for other reef fishes once quotas is met.

The proposed action will result in negative economic effects for some sectors of the commercial fishery and increase the administrative burden on quota monitoring and enforcement activities. The fishery is projected to experience losses in net revenue relative to status quo, but the losses in net revenue are expected to be outweighed by the negative effects (e.g., market gluts, decreases in price, lost markets, etc.) of a derby. The increased administrative activities fall within the scope of routine fishery management actions and the proposed action is expected to enable more effective quota monitoring, thereby reducing the likelihood of overfishing.

**(2) *The degree to which the proposed action affects public health or safety (40 CFR §1508.27(b)(2); NAO 216-6, Section 6.01(b)(2)).*** The proposed action should benefit public health or safety. Trip limits would potentially slow the rate of grouper harvest and prolong the fishing season, thus reducing the likelihood that fishermen would have to fish in bad weather and under derby conditions.

**(3) *Unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas (40 CFR §1508.27(b)(3); NAO 216-6, Section 6.01(b)(3)).*** There would be no affect on parklands, prime farmlands, wetlands, or wild and scenic rivers because those resources are not in the EEZ. The area affected by the proposed action includes areas that have been identified as EFH for several other managed species. Several HAPCs, marine sanctuaries, and marine reserves are found within the Gulf EEZ, where grouper are caught. In most of these areas, gears used to harvest grouper are prohibited.

An EFH consultation for the proposed action has been conducted and concluded the proposed action would not adversely affect EFH. This action is not anticipated to have a significant

adverse impact on EFH because the action does not significantly alter the gears used for harvesting grouper or the amount of interactions with habitat.

***(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial (40 CFR §1508.27(b)(4); NAO 216-6, Section 6.01(b)(4)).*** The proposed action is not considered to be highly controversial. The Southern Offshore Fishermen's Association (SOFA) and Gulf Fishermen's Association support the preferred alternative. These two organizations represent longline and hook-and-line (bandit rig) grouper fishermen. Additionally, the Council voted 14-1 to send a request to NOAA Fisheries Service to implement an emergency rule to establish trip limits for the commercial grouper fishery.

***(5) The degree to which the possible effects on the human environment is highly uncertain or involves unique or unknown risks (40 CFR §1508.27(b)(5); NAO 216-6, Section 6.01(b)(5)).*** There are no highly uncertain, unique or unknown risks associated with the proposed action. Not establishing a trip limit could result in unknown impacts and perhaps risks if a derby fishery develops in 2005.

***(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration (40 CFR §1508.27(b)(6); NAO 216-6, Section 6.01(b)(6)).*** The proposed action would not establish new precedence that would represent a decision in principle about a future consideration. Trip limits are currently used by the Council to limit red snapper, king mackerel, and Spanish mackerel harvest. Landings of many highly migratory species are also regulated by trip limits (e.g., tunas, sharks).

***(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small components (40 CFR §1508.27(b)(7); NAO 216-6, Section 6.01(b)(7)).*** The cumulative effects of this action are described in Section 4.7. The proposed action would maintain the positive biological benefits realized by Secretarial Amendment 1 to the Reef Fish FMP (NOAA Fisheries Service 2004a), which established a rebuilding plan for red grouper and quotas for red grouper, SWG and DWG. Losses in net revenues will increase for some sectors of the fishery and are in addition to net losses incurred from the implementation of the red grouper quota and reductions in the SWG and DWG quotas in 2004. However, this action is temporary and TAC is expected to increase in 2006, thereby reducing future net losses in revenue.

***(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources (40 CFR §1508.27(b)(8); NAO 216-6, Section 6.01(b)(8)).*** The proposed action will not result in any significant impacts on scientific, cultural, or historical resources. No known sites included in the National Register of Historic Places have been identified in the Gulf EEZ.

***(9) The degree to which the action may adversely affect an endangered or threatened species***

*or its habitat that has been determined to be critical under the Endangered Species Act of 1973 (40 CFR §1508.27(b)(9); NAO 216-6, Section 6.01(b)(9)).* The proposed action will not affect endangered and threatened species or critical habitat in any manner not considered in prior consultations on this fishery. Actions in the temporary rule are not expected to increase fishing activity in the commercial sector of the fishery.

*(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment (40 CFR §1508.27(b)(10); NAO 216-6, Section 6.01(b)(10)).* The proposed action will not threaten or violate federal, state, or local laws or regulations imposed for the protection of the environment. These include the ESA, CZMA, and other applicable laws described in Section 7.0.

*(11) Whether the action may result in the introduction or spread of a non-indigenous species (NAO 216-6, Section 6.01(b)(11)).* This action will not result in the introduction or spread of a non-indigenous species. This action only affects groupers and other fish species harvested from the Gulf of Mexico.

Based on the analyses and discussions in this environmental assessment and in the other referenced documents and sections herein, I have determined that the proposed actions to establish a trip limit for the commercial reef fish fishery in the Gulf of Mexico would not significantly affect the quality of the human environment. Accordingly, preparation of an environmental impact statement is not required by Section 102(2)(c) of NEPA, by the CEQ regulations implementing NEPA, or by NAO 216-6.

Approved: \_\_\_\_\_ Date \_\_\_\_\_  
Assistant Administrator for Fisheries

## 7.0 OTHER APPLICABLE LAWS

The MSFCMA (16 U.S.C. 1801 et seq.) provides the authority for fishery management in federal waters of the EEZ. However, fishery management decision-making is also affected by a number of other federal statutes designed to protect the biological and human components of U.S. fisheries, as well as the ecosystems that support those fisheries. Major laws affecting federal fishery management decision-making are summarized below.

### 7.1 Administrative Procedures Act

All federal rulemaking is governed under the provisions of the Administrative Procedure Act (APA) (5 U.S.C. Subchapter II), which establishes a “notice and comment” procedure to enable public participation in the rulemaking process. An agency for good cause may waive the requirement to provide prior notice and opportunity for public comment if the notice and public procedure thereon are impracticable, unnecessary, or contrary to the public interest. The APA also establishes a 30-day waiting period from the time a final rule is published until it takes effect. This waiting period may be waived if an agency establishes good cause

## **7.2 Coastal Zone Management Act**

Section 307(c)(1) of the federal Coastal Zone Management Act (CZMA) of 1972, as amended, requires that federal activities that affect any land or water use or natural resource of a state's coastal zone be conducted in a manner consistent, to the maximum extent practicable, with approved state coastal management programs. The requirements for such a consistency determination are set forth in NOAA regulations at 15 C.F.R. part 930, subpart C. NOAA Fisheries Service has determined that this action is consistent with the Coastal Zone Management programs of the states of Alabama, Florida, Louisiana, Mississippi, and Texas to the maximum extent possible. This determination has been submitted to the responsible state agencies under Section 307 of the CZMA.

## **7.3 Data Quality Act**

The Data Quality Act (DQA) (Public Law 106-443) effective October 1, 2002, requires the government to set standards for the quality of scientific information and statistics used and disseminated by federal agencies. Specifically, the Act directs the Office of Management and Budget (OMB) to issue government wide guidelines that “provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies.” Such guidelines have been issued, directing all federal agencies to create and disseminate agency-specific standards to: (1) ensure information quality and develop a pre-dissemination review process; (2) establish administrative mechanisms allowing affected persons to seek and obtain correction of information; and (3) report periodically to OMB on the number and nature of complaints received. Pursuant to Section 515 of Public Law 106-554, this information document has undergone a pre-dissemination review by the Southeast Regional Office Sustainable Fisheries Division.

## **7.4 Endangered Species Act**

The Endangered Species Act (ESA) of 1973, as amended, (16 U.S.C. Section 1531 et seq.) requires that federal agencies use their authorities to conserve endangered and threatened species. The ESA requires NOAA Fisheries Service, when proposing a fishery action that “may affect” critical habitat or endangered or threatened species, to consult with the appropriate administrative agency (itself for most marine species, the USFWS for all remaining species) to determine the potential impacts of the proposed action. Consultations are concluded informally when proposed actions “may affect but are not likely to adversely affect” endangered or threatened species or designated critical habitat. Formal consultations, including a biological opinion, are required when proposed actions may affect and are “likely to adversely affect” endangered or threatened species or adversely modify designated critical habitat. If jeopardy or adverse modification is found, the consulting agency is required to suggest reasonable and prudent alternatives. Actions proposed in this temporary rule were determined to have no effect on endangered and threatened species or critical habitat.

## **7.5 Executive Orders**

### **7.5.1 E.O. 12866: Regulatory Planning and Review**

Executive Order 12866: Regulatory Planning and Review, signed in 1993, requires federal agencies to assess the costs and benefits of their proposed regulations, including distributional impacts, and to select alternatives that maximize net benefits to society. Section 5.0 herein, provides a comprehensive analysis of the costs and benefits to society of proposed action.

### **7.5.2 E.O. 12630: Takings**

The Executive Order on Government Actions and Interference with Constitutionally Protected Property Rights that became effective March 18, 1988, requires that each federal agency prepare a Takings Implication Assessment for any of its administrative, regulatory, and legislative policies and actions that affect, or may affect, the use of any real or personal property. Clearance of a regulatory action must include a takings statement and, if appropriate, a Takings Implication Assessment. There are no takings implications from the proposed action.

### **7.5.3 E.O. 13089: Coral Reef Protection**

The Executive Order on Coral Reef Protection requires federal agencies whose actions may affect U.S. coral reef ecosystems to identify those actions, utilize their programs and authorities to protect and enhance the conditions of such ecosystems; and, to the extent permitted by law, ensure that actions that they authorize, fund or carry out do not degrade the condition of that ecosystem. There are no implications to coral reefs by the action proposed.

### **7.5.4 E.O. 13132: Federalism**

The Executive Order on Federalism requires agencies in formulating and implementing policies, to be guided by the fundamental Federalism principles. The Order serves to guarantee the division of governmental responsibilities between the national government and the states. No Federalism issues have been identified relative to the proposed action. Therefore, consultation with state officials under this Executive Order is not necessary.

### **7.5.5 E.O. 13158: Marine Protected Areas**

This Executive Order requires federal agencies to consider whether their proposed action(s) will affect any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural or cultural resource within the protected area. This action would have no impacts to marine protected areas.

## **7.6 Marine Mammal Protection Act**

The MMPA established a moratorium, with certain exceptions, on the taking of marine mammals in U.S. waters and by U.S. citizens on the high seas, and on the importing of marine mammals

and marine mammal products into the United States. Under the MMPA, the Secretary of Commerce (authority delegated to NOAA Fisheries Service) is responsible for the conservation and management of cetaceans and pinnipeds (other than walruses). The Secretary of the Interior is responsible for walruses, sea and marine otters, polar bears, manatees, and dugongs. In addition, the final rule for the 2004 List of Fisheries and proposed rule for the 2005 List of Fisheries classifies the Gulf of Mexico reef fish bottom longline/hook-and-line fisheries as Category III fishery. This classification indicates the annual mortality and serious injury of a stock resulting from each fishery is less than or equal to one percent of the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing the stock to reach or maintain its optimum sustainable population (68 FR 41725, 69 FR 70094).

### **7.7 National Environmental Policy Act**

The National Environmental Policy Act (NEPA) requires all federal actions to be evaluated for potential environmental impacts, and for these impacts to be assessed and reported to the public. The NEPA process ensures that the potential environmental ramifications of actions determined necessary to manage a fishery are fully considered through the development and analysis of a range of reasonable alternatives.

An environmental assessment (EA) may be prepared, which provides a concise statement that determines whether the action will have a significant impact(s) on the environment. If there is no potential significant impact, a “Finding of No Significant Impact,” or FONSI, is issued. There are no significant impacts that would require the preparation of an EIS for this action. Consequently, this document includes an EA with a FONSI (Section 5.0).

### **7.8 Paperwork Reduction Act**

The Paperwork Reduction Act (PRA) of 1995 (44 U.S.C. 3501 et seq.) regulates the collection of public information by federal agencies to ensure that the public is not overburdened with information requests, that the federal government’s information collection procedures are efficient, and that federal agencies adhere to appropriate rules governing the confidentiality of such information. The PRA requires NOAA Fisheries Service to obtain approval from the Office of Management and Budget before requesting most types of fishery information from the public. The proposed action does not change the current requirements for collecting information.

### **7.9 Regulatory Flexibility Act**

The Regulatory Flexibility Act (RFA) of 1980 (5 U.S.C. 601 et seq.) requires federal agencies to assess the impacts of regulatory actions on small businesses, small organizations, and small governmental entities, with the goal of minimizing adverse impacts of burdensome regulations and record-keeping requirements on those entities. This action is exempt from the procedures of the RFA because the action is issued without opportunity for prior notice and opportunity for public comment. An economic evaluation of the regulatory impacts associated with this action is summarized in Section 4.0.

## **7.10 Small Business Act**

The Small Business Act of 1953, as amended, Section 8(a), 15 U.S.C. 634(b)(6), 636(j), 637(a) and (d); Public Laws 95-507 and 99-661, Section 1207; and Public Laws 100-656 and 101-37 are administered by the Small Business Administration. Because most businesses associated with fishing are considered small businesses, NOAA Fisheries Service, must make an assessment of how those regulations will affect small businesses. Implications to small businesses are discussed in Section 4.0, herein.

## **7.11 Essential Fish Habitat**

The amended MSFCMA requires adverse effects to EFH caused by fishing be minimized to the extent practicable and identify other actions to encourage the conservation and enhancement of that EFH. This action will not have an adverse impact on EFH, as indicated in Section 5.0.

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## **10.0 LIST OF AGENCIES CONSULTED**

The following agencies were consulted on the provisions of this environmental assessment:

**Coastal Zone Management Programs**

Alabama, Florida, Louisiana, Mississippi, and Texas

**Other Agencies, Organizations, or Persons**

Alabama Department of Conservation and Natural Resources, Marine Resources Division

Florida Fish and Wildlife Conservation Commission

Louisiana Department of Wildlife and Fisheries

Mississippi Department of Marine Resources

National Marine Fisheries Service Southeast Regional Office

National Marine Fisheries Service Southeast Fisheries Science Center

National Marine Fisheries Service Washington Office

National Marine Fisheries Service Law Enforcement

Texas Parks and Wildlife Department

United States Fish and Wildlife Service

United States Coast Guard

## 11.0 TABLES

Table 1. NMFS southeast coastal fisheries logbook-reported commercial fishing activity for **vessels** with landings of Gulf shallow-water and deep-water grouper, 2001-2004 (1)

Year, with sums and averages for 2001-2003 only	Annual totals, vessels with landings of grouper						Per-vessel medians (50th percentiles), vessels with landings of grouper (2)							
	Vessels	Grouper landed, thousand pounds (gutted weight)	Est. gross revenue for grouper landed, thousand 2001 \$	Trips, all fish	Days away from port, all fish	Gross revenue, all fish, thousand 2001 \$	Grouper, pounds landed per year (gutted weight)	Est. gross revenue, grouper, 2001 \$ per year	Est. gross rev, all fish, 2001 \$ per year	% gross revenue from grouper	Engine horse-power	Trips per year with grouper landings	Trips per year, all fish	Days away from port per year, all fish
2001	975	10,637	\$26,735	16,798	56,058	\$48,552	2,179	\$5,450	\$20,367	68%	280	9	14	37
2002	961	10,827	\$26,769	16,696	55,419	\$49,241	2,480	\$6,560	\$21,025	74%	275	9	14	39
2003	934	9,651	\$24,468	16,368	55,221	\$46,577	2,268	\$5,839	\$20,820	70%	300	9	14	42
2004	849	8,418	\$19,678	12,545	41,346	\$35,379	2,231	\$5,359	\$18,216	76%	300	8	12	35
Sum		31,115	\$77,972	49,862	166,698	\$144,370								
Avg	957	10,372	\$25,991	16,621	55,566	\$48,123								

(1) Data for 2004 is not complete. Statistics shown are for vessels with trips with landings of more than one pound (gutted weight) of shallow-water and deep-water grouper caught in the Gulf of Mexico (NOAA Fisheries Service, SEFC, file downloaded 29Nov04). Ex-vessel value (gross revenue) is estimated in an iterative process that merges logbook-reported pounds landed and monthly prices (both on a round weight basis) from the Accumulated Landings System (ALS), starting with merges by species, state, county, year and month (NOAA Fisheries Service, SEFC, files downloaded 03Dec04 for 2003-2004 and previously for earlier years). Real values in 2001\$ are obtained using monthly values for the Bureau of Labor Statistics Producer Price Index for all Commodities. Physical characteristics are for vessels for which the existence of valid permits ("active" permits as of February 1 of each year shown) for commercial fishing for Gulf reef fish could be determined using computer matching of the VESID fields (NOAA Fisheries Service, SERO, Fisheries Permits Team, files downloaded 28Jun04).

(2) Frequency distributions were computed separately for each variable.

Table 2. NMFS southeast coastal fisheries logbook-reported commercial fishing activity for **trips** by vessels with landings of Gulf shallow-water and deep-water grouper, 2001-2004 (1)

Year, with sums and averages for 2001-2003 only	Annual totals, trips with grouper landings						Per-trip medians (50th percentiles), trips with grouper landings			Per-trip 75th, 90th and 99th percentiles, pounds of grouper landed		
	Vessels	Trips	Days away from port, grouper	Grouper landed, thousand pounds (gutted weight)	Est. gross revenue for grouper landed, thousand 2001 \$	Gross revenue, all fish, same trips, thousand 2001 \$	Grouper, pounds landed (gutted weight)	Gross rev., grouper, 2001 \$	Gross rev., all fish, 2001 \$	75th percentile	90th percentile	99th percentile
2001	975	10,844	45,629	10,637	\$26,735	\$39,536	277	\$731	\$2,125	1,091	2,720	8,197
2002	961	11,039	46,038	10,827	\$26,769	\$40,681	283	\$727	\$2,133	1,010	2,675	8,467
2003	934	10,838	46,149	9,651	\$24,468	\$39,108	234	\$614	\$2,058	851	2,543	8,165
2004	849	8,383	34,413	8,418	\$19,678	\$29,521	278	\$664	\$1,866	1,009	2,949	8,332
Total		32,721	137,816	31,115	\$77,972	\$119,325						
Average	957	10,907	45,939	10,372	\$25,991	\$39,775						

Data for 2004 is not complete. See footnote 1, Table 1.

Table 3. NMFS southeast coastal fisheries logbook-reported commercial fishing activity for **vessels** with landings of Gulf shallow-water and deep-water grouper using longlines, 2001-2004 (1)

Year, with sums and averages for 2001-2003 only	Annual totals, vessels with landings of grouper using longlines						Per-vessel medians (50th percentiles), vessels with landings of grouper using longlines (2)									
	Vessels	Grouper landed, thousand pounds (gutted weight)	Est. gross revenue for grouper landed, thousand 2001 \$	Trips, all fish	Days away from port, all fish	Gross revenue, all fish, thousand 2001 \$	Grouper, pounds landed per year (gutted weight)	Est. gross revenue, grouper, 2001 \$ per year	Est. gross rev, all fish, 2001 \$ per year	% gross revenue from grouper	Engine horse-power	Vessel length (feet)	Trips per year with grouper landings	Trips per year, all fish	Days away from port per year, all fish	
2001	164	5,643	\$14,105	2,778	18,488	\$19,152	25,831	\$67,971	\$96,316	85%	228	43	11	15	121	
2002	166	5,470	\$13,349	2,838	17,936	\$18,842	25,022	\$60,379	\$95,538	84%	233	43	10	15	113	
2003	164	5,751	\$14,508	2,632	17,957	\$18,984	26,629	\$70,999	\$102,042	89%	240	45	12	14	116	
2004	147	4,644	\$10,993	1,947	12,913	\$14,080	28,965	\$68,609	\$84,839	91%	250	45	9	12	98	
Sum		16,863	\$41,962	8,248	54,381	\$56,978										
Avg	165	5,621	\$13,987	2,749	18,127	\$18,993										

(1) Longlines include longlines (L) and buoy lines (B). Data for 2004 is not complete. See footnote 1, Table 1.

(2) Frequency distributions were computed separately for each variable.

Table 4. NMFS southeast coastal fisheries logbook-reported commercial fishing activity for **trips** by vessels with landings of Gulf shallow-water and deep-water grouper using longlines, 2001-2004 (1)

Year, with sums and averages for 2001-2003 only	Annual totals, trips with grouper landings						Per-trip medians (50th percentiles), trips with grouper landings			Per-trip 75th, 90th and 99th percentiles, pounds of grouper landed		
	Vessels	Trips	Days away from port, grouper	Grouper landed, thousand pounds (gutted weight)	Est. gross revenue for grouper landed, thousand 2001 \$	Gross revenue, all fish, same trips, thousand 2001 \$	Grouper, pounds landed (gutted weight)	Gross rev., grouper, 2001 \$	Gross rev., all fish, 2001 \$	75th percentile	90th percentile	99th percentile
2001	164	1,751	15,128	5,643	\$14,105	\$15,985	2,532	\$6,352	\$7,278	4,968	7,010	11,395
2002	166	1,731	14,424	5,470	\$13,349	\$15,243	2,357	\$5,871	\$6,746	4,676	7,090	11,858
2003	164	1,812	15,294	5,751	\$14,508	\$16,451	2,555	\$6,569	\$7,462	4,632	6,786	12,984
2004	147	1,302	11,117	4,644	\$10,993	\$12,245	2,960	\$7,012	\$7,741	5,076	7,140	12,339
Total		5,294	44,846	16,863	\$41,962	\$47,679						
Average	165	1,765	14,949	5,621	\$13,987	\$15,893						

(1) Longlines include longlines (L) and buoy lines (B). Data for 2004 is not complete. See footnote 1, Table 1.

Table 5. NMFS southeast coastal fisheries logbook-reported commercial fishing activity for **vessels** with landings of Gulf shallow-water and deep-water grouper using handlines, 2001-2004 (1)

Year, with sums and averages for 2001-2003 only	Annual totals, vessels with landings of grouper						Per-vessel medians (50th percentiles), vessels with landings of grouper (2)								
	Vessels	Grouper landed, thousand pounds (gutted weight)	Est. gross revenue for grouper landed, thousand 2001 \$	Trips, all fish	Days away from port, all fish	Gross revenue, all fish, thousand 2001 \$	Grouper, pounds landed per year (gutted weight)	Est. gross revenue, grouper, 2001 \$ per year	Est. gross rev, all fish, 2001 \$ per year	% gross revenue from grouper	Engine horse-power	Vessel length (feet)	Trips per year with grouper landings	Trips per year, all fish	Days away from port per year, all fish
2001	819	4,065	\$10,535	14,548	41,818	\$34,044	1,309	\$3,478	\$15,746	44%	300	36	7	14	33
2002	810	4,249	\$10,958	14,585	41,658	\$35,869	1,406	\$3,837	\$15,854	47%	280	36	7	14	35
2003	771	3,079	\$8,074	14,136	40,223	\$31,504	1,206	\$3,192	\$16,565	43%	300	35	7	15	35
2004	689	2,993	\$7,074	10,568	29,555	\$22,579	1,302	\$3,136	\$13,615	52%	300	36	7	13	30
Sum		11,393	\$29,567	43,269	123,699	\$101,417									
Avg	800	3,798	\$9,856	14,423	41,233	\$33,806									

(1) Handlines include electric reels (E), hooks and lines (H) and trolling lines (TR). Data for 2004 is not complete. See footnote 1, Table 1.

(2) Frequency distributions were computed separately for each variable.

Table 6. NMFS southeast coastal fisheries logbook-reported commercial fishing activity for **trips** by vessels with landings of Gulf shallow-water and deep-water grouper using handlines, 2001-2004 (1)

Year, with sums and averages for 2001-2003 only	Annual totals, trips with grouper landings						Per-trip medians (50th percentiles), trips with grouper landings			Per-trip 75th, 90th and 99th percentiles, pounds of grouper landed		
	Vessels	Trips	Days away from port, grouper	Grouper landed, thousand pounds (gutted weight)	Est. gross revenue for grouper landed, thousand 2001 \$	Gross revenue, all fish, same trips, thousand 2001 \$	Grouper, pounds landed (gutted weight)	Gross rev., grouper, 2001 \$	Gross rev., all fish, 2001 \$	75th percentile	90th percentile	99th percentile
2001	819	8,419	28,183	4,065	\$10,535	\$21,898	179	\$471	\$1,639	603	1,368	3,213
2002	810	8,531	28,716	4,249	\$10,958	\$23,704	195	\$499	\$1,698	581	1,296	3,428
2003	771	8,425	28,429	3,079	\$8,074	\$21,150	155	\$405	\$1,570	458	987	2,348
2004	689	6,561	21,656	2,993	\$7,074	\$16,040	194	\$469	\$1,464	563	1,197	3,200
Total		25,375	85,328	11,393	\$29,567	\$66,751						
Average	800	8,458	28,443	3,798	\$9,856	\$22,250						

(1) Handlines include electric reels (E), hooks and lines (H) and trolling lines (TR). Data for 2004 is not complete. See footnote 1, Table 1.

Year, with sums and averages for 2001-2003 only	Annual totals, vessels with landings of Gulf reef fish						Per-vessel medians (50th percentiles), vessels with landings of Gulf reef fish (2)								
	Vessels	Gulf reef fish landed, thousand pounds (gutted weight)	Est. gross revenue for Gulf reef fish landed, thousand 2001 \$	Trips, all fish	Days away from port, all fish	Gross revenue, all fish, thousand 2001 \$	Gulf reef fish, pounds landed per year (gutted weight)	Est. gross revenue, Gulf reef fish, 2001 \$ per year	Est. gross rev, all fish, 2001 \$ per year	% gross revenue from Gulf reef fish	Engine horse-power	Vessel length (feet)	Trips per year, all fish	Days away from port per year, all fish	
1993	1,347	16,303	\$34,137	19,483	64,148	\$39,696	3,251	\$6,817	\$9,562	96%	165	36	10	28	
1994	1,387	16,767	\$36,921	20,363	68,794	\$42,450	3,787	\$7,952	\$10,836	96%	200	36	11	31	
1995	1,303	15,872	\$33,711	18,850	62,637	\$38,898	3,482	\$7,227	\$10,407	96%	210	36	11	27	
1996	1,143	15,584	\$33,779	17,580	58,731	\$38,701	3,475	\$7,632	\$11,259	95%	210	37	12	31	
1997	1,169	17,345	\$37,521	18,363	61,010	\$42,869	3,400	\$7,872	\$11,870	95%	225	37	12	30	
1998	1,136	16,763	\$40,262	17,750	56,762	\$45,628	3,779	\$8,895	\$12,526	96%	240	37	12	30	
1999	1,117	18,829	\$44,166	19,836	63,178	\$50,645	4,644	\$11,291	\$15,936	96%	250	37	14	35	
2000	1,134	18,715	\$44,013	19,059	60,486	\$49,912	4,915	\$11,929	\$16,017	97%	253	36	13	31	
2001	1,067	19,056	\$44,541	17,901	57,869	\$49,774	5,011	\$11,450	\$16,554	97%	280	36	13	34	
2002	1,061	19,724	\$45,814	17,758	57,096	\$50,523	5,208	\$12,594	\$16,458	98%	275	36	13	34	
2003	1,022	18,816	\$43,537	17,508	56,950	\$47,658	5,555	\$13,344	\$17,212	98%	300	36	14	37	
2004	925	14,910	\$33,373	13,303	42,432	\$35,940	5,705	\$12,363	\$14,763	99%	300	37	11	31	
Sum		57,595	\$133,893	53,167	171,915	\$147,955									
Avg	1,050	19,198	\$44,631	17,722	57,305	\$49,318									

(1) Data for 2004 is not complete. See footnote 1, Table 1.  
(2) Frequency distributions were computed separately for each variable.

Table 8. NMFS southeast coastal fisheries logbook-reported commercial fishing activity for vessels with landings of Gulf reef fish using longlines, 1993-2004 (1)

Year, with sums and averages for 2001-2003 only	Annual totals, vessels with landings of Gulf reef fish using longlines						Per-vessel medians (50th percentiles), vessels with landings of Gulf reef fish using longlines (2)								
	Vessels	Gulf reef fish landed, thousand pounds (gutted weight)	Est. gross revenue for Gulf reef fish landed, thousand 2001 \$	Trips, all fish	Days away from port, all fish	Gross revenue, all fish, thousand 2001 \$	Gulf reef fish, pounds landed per year (gutted weight)	Est. gross revenue, Gulf reef fish, 2001 \$ per year	Est. gross rev, all fish, 2001 \$ per year	% gross revenue from Gulf reef fish	Engine horse-power	Vessel length (feet)	Trips per year, all fish	Days away from port per year, all fish	
1993	196	5,189	\$11,192	2,618	19,519	\$14,958	19,974	\$41,664	\$66,064	91%	101	42	12	99	
1994	200	5,072	\$11,710	2,869	20,757	\$14,938	20,073	\$44,492	\$62,786	91%	160	42	14	106	
1995	193	4,808	\$10,420	2,686	19,440	\$13,702	18,023	\$38,853	\$59,899	91%	180	43	13	104	
1996	190	4,849	\$11,183	2,955	20,092	\$14,591	18,243	\$44,143	\$60,959	91%	180	43	15	106	
1997	188	5,626	\$12,827	2,786	19,739	\$16,235	23,287	\$53,387	\$70,360	92%	210	43	14	105	
1998	174	5,354	\$12,910	2,567	17,849	\$16,899	22,609	\$52,579	\$82,497	95%	213	44	13	106	
1999	165	6,620	\$16,095	2,702	18,604	\$19,698	33,194	\$80,235	\$110,571	95%	220	43	14	125	
2000	181	6,224	\$15,123	3,063	20,489	\$20,237	27,545	\$70,191	\$107,242	89%	223	44	16	124	
2001	164	6,497	\$15,611	2,778	18,488	\$19,152	33,789	\$76,852	\$96,316	94%	228	43	15	121	
2002	167	6,344	\$14,863	2,878	18,051	\$19,045	30,637	\$69,866	\$95,541	95%	233	43	15	113	
2003	166	6,675	\$16,057	2,680	18,094	\$19,074	32,185	\$77,063	\$101,438	98%	240	44	14	115	
2004	148	5,501	\$12,594	2,031	13,011	\$14,151	31,329	\$71,130	\$83,517	98%	250	45	12	98	
Sum		19,516	\$46,531	8,336	54,633	\$57,271									
Avg	166	6,505	\$15,510	2,779	18,211	\$19,090									

(1) Longlines include longlines (L) and buoy lines (B). Data for 2004 is not complete. See footnote 1, Table 1.

(2) Frequency distributions were computed separately for each variable.

Table 9. NMFS southeast coastal fisheries logbook-reported commercial fishing activity for vessels with landings of Gulf reef fish using handlines, 1993-2004 (1)

Year, with sums and averages for 2001-2003 only	Annual totals, vessels with landings of Gulf reef fish using handlines						Per-vessel medians (50th percentiles), vessels with landings of Gulf reef fish using handlines (2)							
	Vessels	Gulf reef fish landed, thousand pounds (gutted weight)	Est. gross revenue for Gulf reef fish landed, thousand 2001 \$	Trips, all fish	Days away from port, all fish	Gross revenue, all fish, thousand 2001 \$	Gulf reef fish, pounds landed per year (gutted weight)	Est. gross revenue, Gulf reef fish, 2001 \$ per year	Est. gross rev, all fish, 2001 \$ per year	% gross revenue from Gulf reef fish	Engine horse-power	Vessel length (feet)	Trips per year, all fish	Days away from port per year, all fish
1993	1,157	9,720	20,225	17,311	50,550	\$29,692	2,099	\$4,452	\$8,084	91%	170	36	11	26
1994	1,208	10,218	22,068	17,960	53,868	\$31,560	2,314	\$5,096	\$9,546	91%	200	36	11	27
1995	1,100	9,601	20,331	16,364	46,336	\$27,742	2,243	\$4,710	\$7,983	92%	215	35	11	24
1996	943	9,834	20,682	15,131	42,760	\$27,571	2,088	\$4,553	\$8,887	91%	210	36	12	27
1997	986	10,686	22,505	16,211	45,546	\$30,747	2,089	\$4,743	\$8,779	91%	230	36	12	27
1998	953	10,826	26,054	15,661	41,637	\$32,616	2,500	\$6,127	\$10,219	92%	240	35	12	26
1999	957	11,115	25,655	17,700	47,601	\$34,592	3,073	\$7,390	\$13,168	92%	250	35	14	31
2000	988	11,086	25,844	17,022	45,954	\$36,038	3,220	\$7,785	\$12,977	94%	260	35	13	28
2001	918	11,458	26,593	15,798	44,248	\$35,734	3,169	\$7,236	\$12,922	94%	300	36	14	29
2002	914	12,127	28,242	15,713	43,615	\$37,612	3,206	\$7,587	\$13,004	96%	280	35	13	29
2003	865	11,210	25,404	15,327	42,525	\$33,076	2,929	\$7,192	\$13,112	96%	300	35	14	30
2004	773	8,547	19,043	11,488	31,322	\$23,910	3,369	\$7,827	\$12,047	98%	300	36	12	26
Sum		34,795	\$80,239	46,838	130,388	\$106,421								
Avg	899	11,598	\$26,746	15,613	43,463	\$35,474								

(1) Handlines include electric reels (E), hooks and lines (H) and trolling lines (TR). Data for 2004 is not complete. See footnote 1, Table 1.

(2) Frequency distributions were computed separately for each variable.

Table 10. Species in the Gulf shallow-water and deep-water grouper complex

Species Code	Common Name	Deep water	Shallow water
1410	GROUPERS		x
1411	HIND, SPECKLED	x	
1412	HIND, ROCK		x
1413	HIND, RED		x
1414	GROUPEr, SNOWY	x	
1415	GROUPEr, YELLOWEDGE	x	
1416	GROUPEr, RED		x
1420	GROUPEr, MISTY	x	
1422	GROUPEr, BLACK		x
1423	GROUPEr, GAG		x
1424	SCAMP		x
1425	GROUPEr, YELLOWMOUTH		x
1426	GROUPEr, YELLOWFIN		x
3111	SAND PERCH, DWARF		x
3110	SAND PERCH		x
4740	GROUPEr, WARSAW	x	

Table 11. NMFS southeast coastal fisheries logbook-reported landings in thousands of pounds (gutted weight) by region for trips with at least 1 pound of Gulf shallow-water or deep-water grouper, 2000-2004 (1)

Year	Texas (Areas 18-20)	Western LA (Areas 13-17)	East LA -MS- AL (Areas 11- 12)	Northwest FL (Areas 7-10)	West Central FL (Areas 3-6)	Florida Keys (Areas 1-2)	Other Areas	Total
All gear								
2000	993	2,900	571	3,649	8,475	839	8	17,435
2001	1,160	2,574	691	3,953	8,264	921	3	17,566
2002	1,321	2,980	747	4,197	8,378	741	4	18,367
2003	1,639	2,817	959	3,578	7,907	802	4	17,706
2004	1,084	1,960	489	2,976	6,643	672	12	13,836
Average	1,239	2,646	691	3,671	7,933	795	6	16,982
	7.3%	15.6%	4.1%	21.6%	46.7%	4.7%	0.0%	100.0%
Longlines								
2000	212	486	28	1,060	4,693	285	4	6,768
2001	212	486	28	1,060	4,693	285		6,945
2002	215	502	46	857	4,930	231	4	6,784
2003	496	312	55	852	5,151	377		7,242
2004	358	125	33	570	4,195	376		5,656
Average	299	382	38	880	4,732	311	4	6,679
	4.5%	5.7%	0.6%	13.2%	70.9%	4.7%	0.1%	100.0%
Vertical Lines								
2000	781	2,385	536	2,234	2,683	445	4	9,068
2001	967	2,244	646	2,562	2,483	384	3	9,289
2002	1,106	2,449	698	3,021	2,400	420		10,094
2003	1,143	2,475	895	2,509	1,938	329	4	9,293
2004	726	1,830	452	2,279	1,670	220	12	7,189
Average	945	2,277	645	2,521	2,235	360	6	8,987
	10.5%	25.3%	7.2%	28.1%	24.9%	4.0%	0.1%	100.0%

(1) Based on summaries of logbook data provided by Waters (2004). Data for 2004 is not complete. See footnote 1, Table 1.

Table 12. Summary of reductions in net operating revenues (thousands), by gear type. The results under the quotas category are relative to historical performance. The “% Loss” columns refer to the proportion of the total loss.

Alternative 2										
Gear Type	Quotas		Trip limits w/ no extra trips				Trip limits w/ extra trips			
	Loss	% Loss	Loss	% Loss	Difference	% Diff	Loss	% Loss	Difference	% Diff
Vertical Lines	\$646	32%	\$513	23%	-\$133	-21%	\$573	25%	-\$73	-11%
Bottom Longlines	\$1,329	65%	\$1,648	73%	\$319	24%	\$1,614	71%	\$285	21%
Fish Traps	\$63	3%	\$63	3%	\$1	1%	\$72	3%	\$9	15%
Other Gears	\$9	0%	\$31	1%	\$22	256%	\$6	0%	-\$2	-28%
Total	\$2,046	100%	\$2,255	100%	\$209	10%	\$2,265	100%	\$219	11%
Alternative 3										
Gear Type	Quotas		Trip limits w/ no extra trips				Trip limits w/ extra trips			
	Loss	% Loss	Loss	% Loss	Difference	% Diff	Loss	% Loss	Difference	% Diff
Vertical Lines	\$646	32%	\$395	15%	-\$250	-39%	\$455	18%	-\$191	-30%
Bottom Longlines	\$1,329	65%	\$2,057	80%	\$728	55%	\$1,922	78%	\$593	45%
Fish Traps	\$63	3%	\$95	4%	\$32	52%	\$87	4%	\$24	38%
Other Gears	\$9	0%	\$31	1%	\$22	256%	\$4	0%	-\$5	-54%
Total	\$2,046	100%	\$2,579	100%	\$533	26%	\$2,468	100%	\$422	21%

Table 13. Summary of reductions in net operating revenues (thousands), by area. The results under the quotas category are relative to historical performance. The “% Loss” columns refer to the proportion of the total loss.

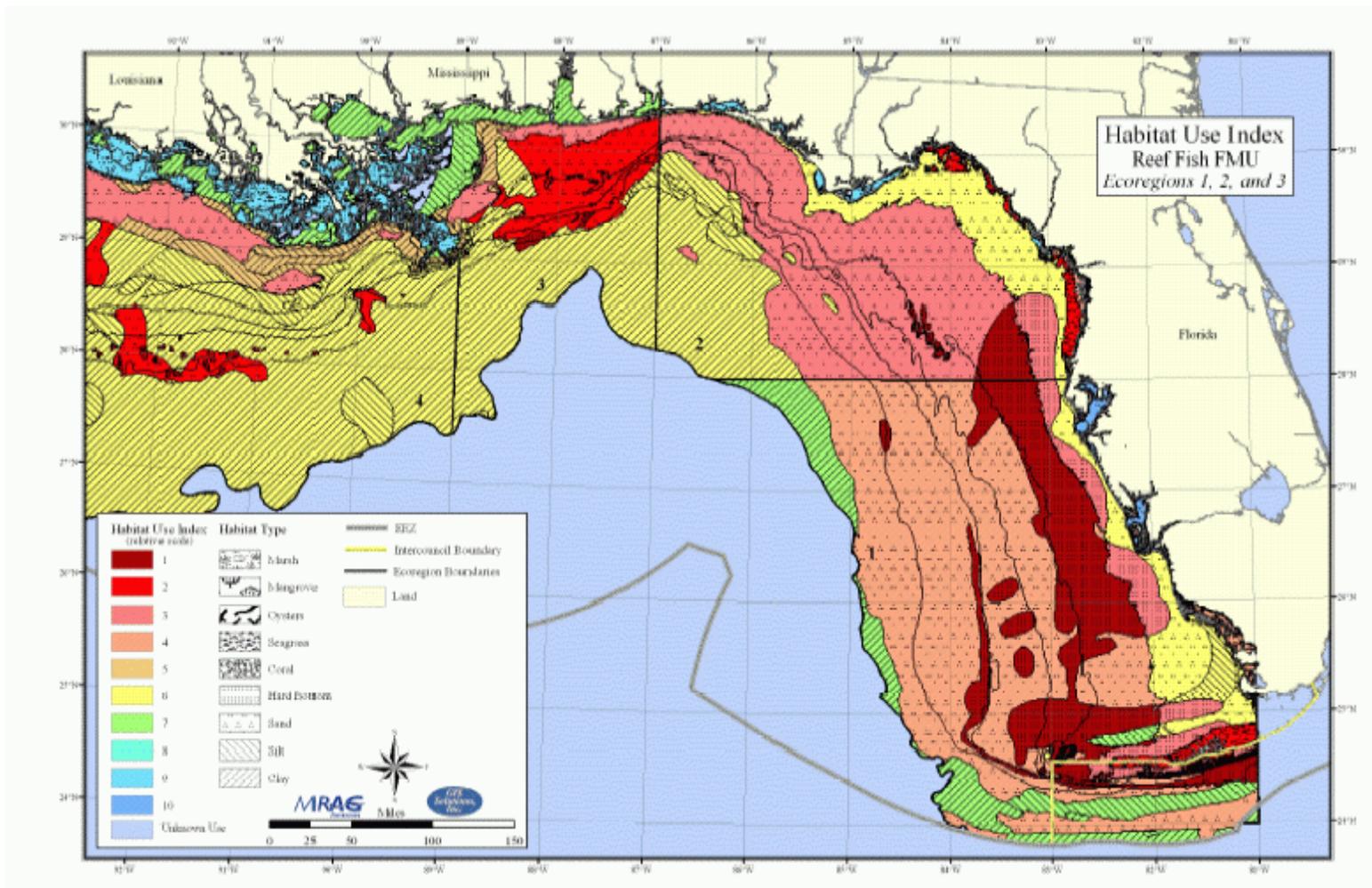
Alternative 2										
Area	Quotas		Trip limits w/ no extra trips				Trip limits w/ extra trips			
	Loss	% Loss	Loss	% Loss	Difference	% Diff	Loss	% Loss	Difference	% Diff
Texas	\$185	9%	\$166	7%	-\$19	-10%	\$185	8%	\$0	0%
Western LA	\$169	8%	\$176	8%	\$7	4%	\$182	8%	\$13	8%
Eastern LA -MS-AL	\$25	1%	\$22	1%	\$4	-14%	\$24	1%	-\$2	-6%
Northwest FL	\$400	20%	\$319	14%	-\$81	-20%	\$370	16%	-\$30	-8%
West-Central FL	\$1,196	58%	\$1,497	66%	\$301	25%	\$1,430	63%	\$234	20%
FL Keys	\$70	3%	\$75	3%	\$5	7%	\$75	3%	\$5	8%
Other	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$0	0%
Total	\$2,045	100%	\$2,254	100%	\$209	10%	\$2,266	100%	\$221	11%
Alternative 3										
Area	Quotas		Trip limits w/ no extra trips				Trip limits w/ extra trips			
	Loss	% Loss	Loss	% Loss	Difference	% Diff	Loss	% Loss	Difference	% Diff
Texas	\$185	9%	\$168	7%	-\$17	-9%	\$170	7%	-\$15	-8%
Western LA	\$169	8%	\$172	7%	\$3	2%	\$188	8%	\$19	11%
Eastern LA -MS-AL	\$25	1%	\$18	1%	-\$7	-28%	\$21	1%	-\$4	-17%
Northwest FL	\$400	20%	\$290	11%	-\$111	-28%	\$311	13%	-\$90	-22%
West-Central FL	\$1,196	8%	\$1,840	71%	\$644	54%	\$1,678	68%	\$482	40%
FL Keys	\$70	3%	\$91	4%	\$21	30%	\$101	4%	\$31	44%
Other	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$0	0%
Total	\$2,045	100%	\$1,578	100%	\$533	26%	\$2,468	100%	\$423	21%

Table 14. Summary of reductions in predicted numbers of trips, by gear type.							
Alternative 2							
Gear Type	Quotas	Trip limits w/ no extra trips			Trip limits w/ extra trips		
	Trips	Trips	Difference	% Diff	Trips	Difference	% Diff
Vertical Lines	7,887	809	123	2%	7,963	77	1%
Bottom Longlines	1,590	1,628	38	2%	1,623	34	2%
Fish Traps	648	474	7	1%	42	4	1%
Other Gears	436	440	4	1%	439	3	1%
Total	10,380	10,551	171	2%	10,498	118	1%
Alternative 3							
Gear Type	Quotas	Trip limits w/ no extra trips			Trip limits w/ extra trips		
	Trips	Trips	Difference	% Diff	Trips	Difference	% Diff
Vertical Lines	7,887	8,114	227	3%	8,055	168	2%
Bottom Longlines	1,590	1,664	74	5%	1,664	74	5%
Fish Traps	648	478	11	2%	477	9	2%
Other Gears	436	442	5	1%	441	5	1%
Total	10,380	10,697	317	3%	10,637	256	2%

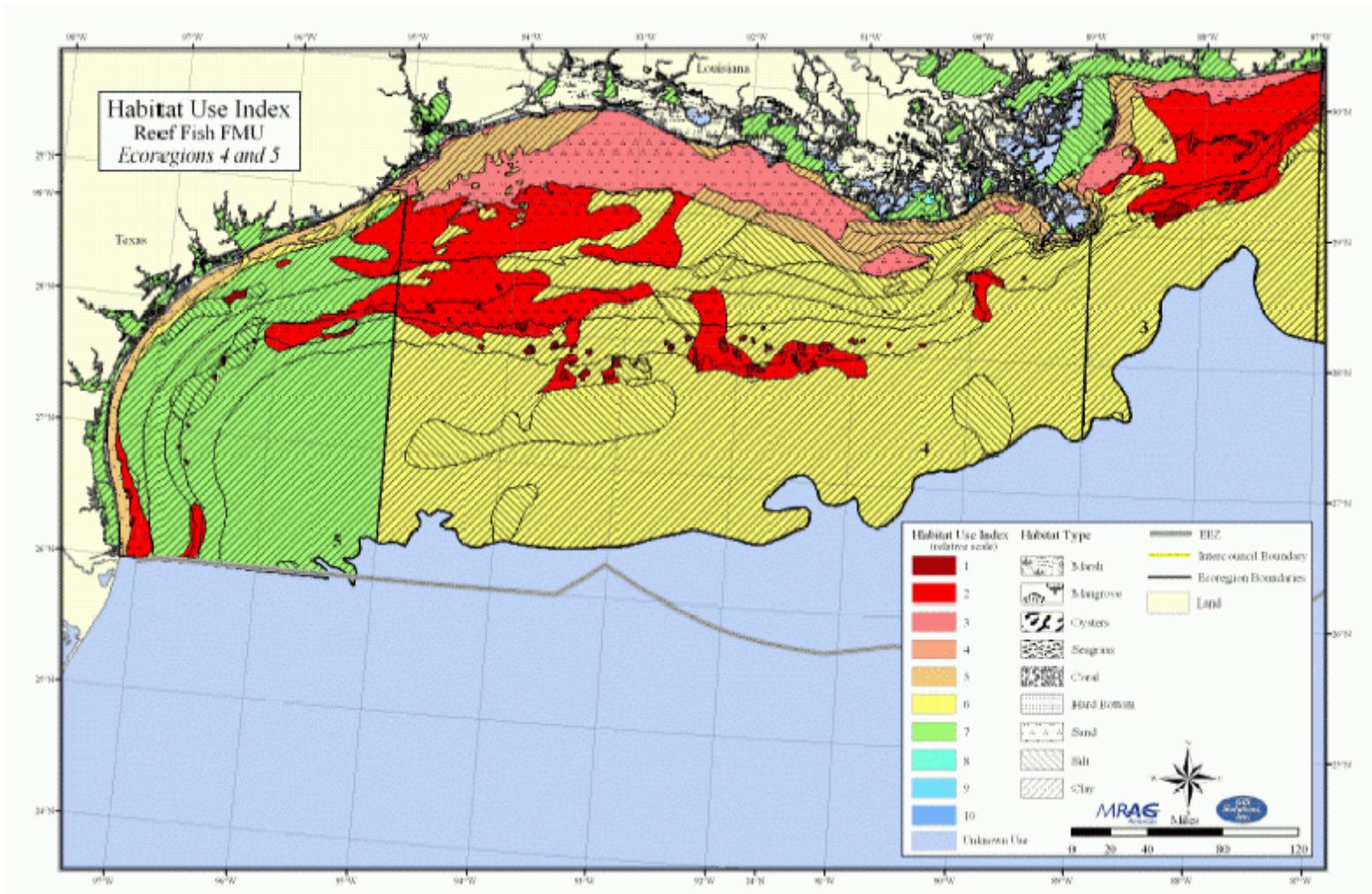
Table 15. Summary of reductions in predicted numbers of trips, by area.							
Alternative 2							
Gear Type	Quotas	Trip limits w/ no extra trips			Trip limits w/ extra trips		
		Trips	Difference	% Diff	Trips	Difference	% Diff
Texas	577	580	3	0%	578	1	0%
Western LA	1,118	1,121	3	0%	1,120	2	0%
Eastern LA -MS-AL	439	441	2	0%	440	1	0%
Northwest FL	3,393	3,468	75	2%	3,441	47	1%
West-Central FL	4,006	4,090	64	2%	4,066	60	1%
FL Keys	844	853	8	1%	851	7	1%
Other	2	2	0	0%	2	0	0%
Total	10,380	10,555	175	2%	10,498	118	1%
Alternative 3							
Gear Type	Quotas	Trip limits w/ no extra trips			Trip limits w/ extra trips		
		Trips	Difference	% Diff	Trips	Difference	% Diff
Texas	577	581	3	1%	580	3	1%
Western LA	1,118	1,122	4	0%	1,122	3	0%
Eastern LA -MS-AL	439	441	3	1%	441	2	0%
Northwest FL	3,393	3,530	136	4%	3,498	104	3%
West-Central FL	4,006	4,160	153	4%	4,169	132	3%
FL Keys	844	862	17	2%	855	11	1%
Other	2	2	0	0%	2	0	0%
Total	10,380	10,697	317	3%	10,637	256	2%

Table 16. Estimated closure dates based on fishery performance, by year.						
Year	Alternative 2					
	Quotas only		Trip limits w/ no extra trips		Trip limits w/ extra trips	
	SWG	DWG	SWG	DWG	SWG	DWG
2000	18-Nov	17-Aug	6-Dec	17-Aug	1-Dec	17-Aug
2001	27-Nov	31-Oct	5-Dec	22-Nov	4-Dec	10-Nov
2002	11-Nov	29-Nov	3-Dec	18-Dec	24-Nov	15-Dec
2003		30-Jul		4-Aug		3-Aug
2004		14-Jun		17-Jun		17-Jun
Year	Alternative 3					
	Quotas only		Trip limits w/ no extra trips		Trip limits w/ extra trips	
	SWG	DWG	SWG	DWG	SWG	DWG
2000	18-Nov	17-Aug	12-Dec	20-Aug	7-Dec	20-Aug
2001	27-Nov	31-Oct	15-Dec	1-Dec	13-Dec	21-Nov
2002	11-Nov	29-Nov	16-Dec		2-Dec	
2003		30-Jul		6-Aug		5-Aug
2004		14-Jun		23-Jun		18-Jun

## 12.0 FIGURES



**Figure 1.** Habitat use by Reef Fish FMP species in the eastern Gulf of Mexico - low index number represent high levels of habitat use (from GMFMC 2004a).



**Figure 2.** Habitat use by Reef Fish FMP species in the western Gulf of Mexico - low index number represent high levels of habitat use (from GMFMC 2004a).